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No. 16

Boll Weevil Count Shows Rise in Four Southern States

Serious Threat Seen If Weather Favors Development of Pest

WASHINGTON—Cotton boll weevil populations in Louisiana, Mississippi and parts of North Carolina and South Carolina are higher than those recorded last spring, the U.S. Department of Agriculture reports. Two areas with unusually high populations showed up in a spring survey in northeastern Louisiana and the Carolina coastal plains.

If weather during the early growing season favors weevil development, surviving weevils may pose a serious threat to cotton production this year.

However, numbers are generally below the long-time average. Fewer weevils per acre were found in Georgia. (Turn to **BOLL WEEVIL**, page 17)

Seed Treatments Improve Sesame Disease Control

WASHINGTON—Use of disease-controlling seed treatments can contribute to better stands of the oilseed crop, sesame, according to a U.S. Department of Agriculture scientist.

Studies by Dr. Charles A. Thomas of USDA's Agricultural Research Center at Beltsville, Md., showed seed treatments can result in a significant reduction of bacterial leaf spot, blight, damping off and other diseases.

Although sesame is one of the world's oldest seed crops, little work has been done anywhere on control of its diseases. In the U.S.—particularly in the Southeast—diseases resulting in poor stands are a major problem. Diseases are a lesser problem in the Southwest, largely because rainfall is less.

Sesame is valuable both for its whole seed, which is used by bakers and confectioners, and as a source of a high-quality food oil.

Since World War II, the U.S. has imported between 9 to 24 million pounds of sesame seed annually—about 90% of total U.S. consumption. Improvement of sesame through research can help to produce.

(Turn to **SESAME**, page 20)

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Mexico and U.S. Start Screwworm Field Studies

WASHINGTON—Coordinated field studies of the screwworm, a serious livestock pest, have been organized by Mexico and the U.S., the U.S. Department of Agriculture announced April 13. The joint effort is part of the Mexican-U.S. program of cooperation discussed by President Eisenhower and the President of Mexico, Adolfo Lopez Mateos, at Acapulco, Mexico, last February.

Personnel assigned by USDA's Agricultural Research Service are working with Mexico and southwest.

(Turn to **SCREWORMS**, page 20)

Hooker Chemical Forms Bahama Corporation, Company in Mexico

NIAGARA FALLS, N.Y.—Hooker Chemical Corp., with headquarters here, has formed a Bahamian corporation, Hooker Chemical International Ltd., for the purpose of engaging in chemical manufacturing and marketing activities in Latin American countries. The announcement is made by Thomas E. Moffitt, president of Hooker Chemical Corp.

At the same time, Mr. Moffitt also announced the formation of a Mexican company, Hooker Mexicana, S.A., organized primarily to manufacture and market phosphates in Mexico.

SMALLER PROJECT IN '59 . . .

Gypsy Moth Control Program to Continue In Western New York

(See Editorial, Page 22)

WASHINGTON—The 1959 version of the gypsy moth control campaign will be somewhat less widespread than was last season's effort in a number of northeastern states. This time, the objective will be to push the pest back across the Catskill mountains and thus eradicate it from other heavily-forested areas.

Plans are being completed by officials of New York State and the U.S. Department of Agriculture. Federal funds available for further gypsy moth control total some \$2,800,000. This same amount is provided in the USDA budget for the fiscal year beginning July 1. Congressional action has not yet been taken on the budget.

According to present plans, the operation this season will be confined to a relatively small area on the western edge of New York State still infested. DDT will be ap-

plied in uninhabited and wild areas, but in locations where dairy farms form a substantial part of the agricultural activity, USDA has announced that a different insecticide will be employed.

Demonstrations of the effectiveness of the insecticide, Sevin, will be carried out against the gypsy moth, according to USDA. The test plot will comprise about 75,000 acres of infested woodland in the eastern portion of Otsego and northeastern portion of Delaware counties, New York. Treatment is expected to get under way about May 10.

USDA says that the choice of Sevin for the demonstration is a result of a continuing search for materials for gypsy moth control with a minimum of hazard to fish and wildlife and without long-lasting residues.

Last year's federal-state endeavors met with opposition from some citizens, but the matter was settled at least temporarily by Judge Walter Bruchhausen of the Federal District Court, Brooklyn, N.Y., who held that federal and state governments had a legal right to halt the depredations of gypsy moth by aerial spraying of Long Island.

Foresters have pointed out that two successive defoliations of birch, poplar, oak, willow, linden, pear, apple, and other hardwood trees will kill them; and that only one defoliation by the gypsy moth will kill trees such as hemlock and white pine.

More than 4,000,000 acres of infested area from Maine down through the other New England States to

(Turn to **GYPSY MOTH**, page 21)

Railroad Announces Fertilizer Freight Rate Drop of 35%

ST. PAUL, MINN.—Great Northern Railroad here announced freight rate reductions of from 10 to 35% on dry fertilizer and component materials to take effect May 1.

The new rates will average 10 to 20% below present rates on carload shipments of 60,000 lb. and from 20 to 35% lower on shipments of 100,000 lb.

The reduction will apply to all shipments from major fertilizer producing areas to any destination in the Upper Midwest.

A Great Northern spokesman said the reduction was made to meet truck rate competition.

DESPITE INCREASED TRAFFIC . . .

USDA Detectives Nab Foreign Insects At Faster Rate During Past 20 Years

WASHINGTON—Increased interest in insect detection in the U.S. has raised again the question concerning where do these introduced pests originate, and where and when were they first discovered in the U.S.? Survey and detection files of USDA and records of cooperating agencies tell much of the story.

A recent listing of some of the more important introduced insects dating from 1900 has been compiled by USDA. It includes some species which have been eradicated through forthright effort, and others which not only still survive, but are becoming more widespread.

In the former category is mentioned the Mediterranean fruit fly, twice found established in Florida (1929 and 1956), but eradicated in both instances. The 1934 citrus blackfly infestation in Key West, Fla., was also eliminated. The Hall scale infestation in California has apparently been eradicated also. Other species in the list that are currently involved in cooperative state-federal plant pest control programs are citrus blackfly, European chafer, Mexican fruit fly, white-fringed beetle, imported fire ant,

khapra beetle, pink bollworm and Japanese beetle.

Many additional species of prime importance have been discovered since 1900. European corn borer, found in 1917 and now known in 39 states, caused \$158,000,000 loss in 1957. Alfalfa weevil and spotted alfalfa aphid are outstanding pests of alfalfa. Sweetclover weevil and vetch bruchid are principal pests of their respective hosts.

Rosy apple aphid, oriental fruit moth and European red mite are among the more important fruit insects, while pepper weevil, vegetable weevil, carrot rust fly and European earwig are in the same category from the truck crop standpoint. Some important forest and shade tree insects are in the list, including spruce aphid, balsam woolly aphid, introduced pine sawfly, European pine shoot moth, smaller European elm bark beetle and European pine sawfly.

"It should be noted that only 14% of these new discoveries have been made in the last 20 years. This is especially significant when considered against the vast increase in traffic during this period. Such accomplishment undoubtedly reflects the increased vigilance that has been maintained at U.S. ports of entry in recent years," USDA observes.

Intensified Soil Fertility Projects Expanded to 88 Counties in 14 States

WASHINGTON—Intensified community soil fertility projects, initiated largely through the efforts of the National Plant Food Institute, are being carried out this year in 88 counties in 14 states across the country. These programs are designed to boost agricultural income by getting farmers to have their soil sampled and to follow lime and fertilizer recommendations furnished on the basis of soil tests.

Following the spectacular results obtained in 1958 in Georgia and North Carolina the Institute was able to initiate pilot operations in 12 additional states this year.

"These might be called 'motivation studies,' because they have been established under controlled conditions and the results will be closely analyzed," Dr. Russell Coleman, executive vice president of the institute, said. "Assuming results comparable to those obtained in Georgia and North Carolina in 1958, the spread within the pilot states and in other states should be rapid in 1960."

In setting up such a program in a particular county, the Institute feels, Dr. Coleman noted, that it is necessary to gain the confidence and support of two groups.

"The state agricultural college must be convinced," Dr. Coleman said, "that the program will help to get their fertilizer recommendations generally accepted by farmers, and the industry serving the state must be convinced that the technique will improve fertilizer sales." The Institute's executive vice president went on to say that it is "necessary to demonstrate results before widespread application of this technique in a new state or area."

In regard to the initial project carried out in Georgia in six counties during 1957-58, the Institute supported the project with a grant of funds and preparation of educational materials.

Key to success of the program, according to J. R. Johnson, extension agronomist at the University of Georgia, was careful advance planning and preparation which resulted in

support and cooperation by practically every local group and individual.

When the time for action came, Mr. Johnson said, "Soil Fertility Weeks" were officially declared by city and county officials. Bankers, merchants, politicians, home demonstration clubs, newspapers and radio stations cooperated in promoting the program.

Some of the results of the program included a boost in fertilizer tonnage by 10.1% in 1958 in the six county area while over-all sales in Georgia dropped about 1%. Total plant food consumption was up 17.5% because farmers used more of the recommended grades. In Colquitt County alone, income increased by \$3.75 million.

In terms of individual plant foods, nitrogen use climbed 27%, phosphate (P₂O₅) 10% and potash (K₂O) 18%. Lime use more than tripled in the six county area.

In 1958 in Hoke County, North Carolina, where the program was patterned after the Georgia project, fertilizer sales jumped 14.7% while sales for the state as a whole dropped 4%. Farm income increased by \$1.75 million despite a decrease of 40% in cotton acreage.

Every farmer in Hoke County participated in the project as nearly 6,000 soil samples were taken.

January Lime Output

WASHINGTON—Agricultural lime output in January, 1959 amounted to 7,205 short tons, or 64 tons less than year-ago figures, reported the Bureau of Mines, U.S. Department of the Interior. The total tonnage was made up of 3,059 short tons of quicklime and 4,146 short tons of hydrated lime.

CIRCULAR AVAILABLE

CLEMSON, S.C.—Fertilizer recommendations for South Carolina—1959—are to be found in Circular 452 now being distributed by the Clemson extension service. Copies are available at offices of county agents and at the Clemson agricultural publications department here.



Maynard C. Wheeler



William S. Leonhardt

ELECTED—Maynard C. Wheeler has been elected president of Commercial Solvents Corp., it was announced following a recent meeting of the board of directors. At the same meeting, William S. Leonhardt was named financial vice president and treasurer, and Jeremiah Milbank, Jr., was elected chairman of the board's executive committee. Mr. Wheeler succeeds J. Albert Woods, who is continuing his association with Commercial Solvents as a consultant. Mr. Wheeler has been a vice president of Commercial Solvents since 1945 and a member of its board since 1950. He is also a director and vice president of Northwest Nitro-Chemicals, Ltd., Canadian fertilizer manufacturing affiliate of Commercial Solvents. He holds the same positions with Petroquímica de Mexico, S.A. Mr. Leonhardt has been treasurer of Commercial Solvents since 1957. Prior to that time he was budget director.



KEY TO NEW LABORATORY—Dr. Isaac K. Beckes, left, president of Vincennes University, Vincennes, Ind., hands new laboratory key to S. A. Hall, chief, pesticide chemicals research branch, entomology research service, U.S. Department of Agriculture, at recent dedication ceremonies of the new fruit insect and pesticide chemical laboratory at Vincennes. Dedication of the new facilities took place on April 5.

Fruit Insect and Pesticide Laboratory Dedicated in Indiana

VINCENNES, IND.—A new federal fruit insect and pesticide chemical laboratory was dedicated here April 5, with representatives of the pesticide trade and entomologists from five midwestern states and the U.S. Department of Agriculture on hand to participate in the event.

The original unit was established in 1923 as a fruit insect laboratory to serve the fruit growers of the midwest. It has been instrumental in keeping fruit pests under control in this area. The new facilities, said to be one of the most modern in the country, are located near the campus of Vincennes University.

Dr. J. N. Volk, director of the Purdue University agricultural experiment station, Lafayette, Ind., told the group that progress continues to be made toward insect control through the discovery and development of new pesticidal materials. Since some insects appear to build up immunity to some materials, it is more necessary than ever to maintain research to find new products to protect crops from insect damage.

A luncheon preceded the dedicatory program. Master of ceremonies was E. E. Norris, USDA entomologist, and speakers included Dr. B. A. Porter, chief, fruit and vegetable insects research branch, USDA, and entomologists representing the states of Indiana, Illinois, Iowa, Ohio and Kentucky, the areas covered by the work to be done at the Vincennes laboratory.

Dr. J. V. Osmun, department of entomology, Purdue University, Lafayette, represented Indiana; Dr. George C. Decker, Illinois Natural History Survey entomologist, Illinois; Dr. Paul Dahm, Iowa State College; Dr. C. R. Cutright, Ohio agricultural experiment station; and Lee H. Townsend, Kentucky agricultural experiment station.

Official welcome from the U.S. Department of Agriculture was voiced by Dr. E. F. Knipling, director of the entomology research division, USDA.

At the end of the ceremonies, Dr. Isaac Beckes, president of Vincennes University, presented the key to the

laboratory to Dr. S. A. Hall, USDA.

The new building, a single-story concrete block structure, contains office and laboratory quarters for D. W. Hamilton, entomologist in charge, deciduous fruit insects section of the entomology research division, USDA; and Jack E. Fahey, chemist in charge, analytical section of entomology research.

Legislation Asked To Curb Dishonest Manure Manipulators

DENVER—Legislation is needed to protect the public from dishonest manure manipulators, members of the Agriculture Committee of the Colorado House have been told.

Herbert Gundell, Denver County agricultural agent, said countless homeowners in the metropolitan area are swindled each year by door-to-door fertilizer salesmen.

John Hennesy, head of the feed and fertilizer section of the State Agriculture Department, said complaints also have come from Pueblo, Grand Junction and Colorado Springs.

The committee, headed by Rep. Guy Poe of Holyoke, is considering a bill sponsored by Rep. Elmer Johnson of Denver which would define "manipulated" fertilizers, would license "manipulators" and "applicators" and would provide for state inspections and testing of merchandise. "Manipulated" products are those which have been dried, ground, mixed with peat, or otherwise treated.

Mr. Hennesy said present laws governing the fertilizer industry do not cover manipulated manures. He said he feels the Johnson bill is needed to control salesmen who tell homeowners they are getting "quality merchandise" which actually is a mixture composed mainly of sand or sawdust.

After the hearing the committee voted to reduce the amount of license fees to \$25 for manipulators and to \$10 for applicators, then voted to report the bill favorably for floor action.

SUBSIDIARY ORGANIZED

SAN FRANCISCO—The Sunshine Garden Products, Inc., has been organized in San Francisco as a subsidiary of the agricultural chemical producing firm of Wilson & Geo. Meyer & Co., also in San Francisco. Primary function of the Sunshine firm is to handle sales of peat moss, which has been marketed under the "Sunshine" brand for several years. The subsidiary company is representing Canadian Peat Moss, Ltd., and the Western Peat Co.

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INSECT, PLANT DISEASE NOTES

African Thrips Damage Lettuce in New Mexico

UNIVERSITY PARK, N.M.—African thrips have caused serious damage to a field of young lettuce near Mesquite, Dr. J. Gordon Watts, head of the botany and entomology department at New Mexico State University has reported. The newly discovered pest is jet black in color, which is in contrast to the yellow to brown color of native thrips some times found on lettuce and usually found on onions. The African thrips were first discovered in this country last fall in Southern California.

From three to four dozen adults were found on some of the lettuce plants in the Mesquite field. At least half of the plants had been killed. Smaller numbers of the thrips were found in other lettuce and onion fields in the Mesilla Valley, Dr. Watts said. Some fields have been treated.



Sawflies Predicted in Canadian Province

REGINA, SASK., CANADA—Light to moderate infestations of the wheat stem sawfly are forecast for southern areas of Saskatchewan in 1959, R. E. McKenzie, director, plant industry branch, Saskatchewan department of agriculture, indicates.

The forecast is based on surveys conducted by the field crop insect section, Canada department of agriculture, Lethbridge.

Sawfly losses in Saskatchewan have ranged up to \$20 million but in recent years activity has decreased and losses have been in the \$5 to \$10 million range.

Gnat Control Approved In California Budget

SACRAMENTO—A California state senate finance subcommittee has approved adding to the state budget a \$20,000 item for gnat research. The amount was requested by Waverly Jack Slattery, state senator of Lake County, who said that gnat infestations in his county are threatening the recreational economy of that area.

Plum Curculio Active in Georgia Orchards

ATHENS, GA.—Plum curculio infestation is exceedingly heavy in some orchards, as revealed by averages of 10.1 and 12.8 plum curculio adults per tree caught March 26 and 27, respectively, from the outside row of one commercial peach orchard. In another orchard not a single adult was caught on the outside row on March 26. This indicates a lighter infestation in those orchards where the infestation was light last year or where a good program of control measures was enforced last year.

Plum curculio adults continue to leave hibernation in numbers. As many as an average of 13.2 curculios per tree were caught on March 31 from the outside row of one commercial peach orchard. The mean temperature here was above 60° F. on 5 of the 8 day period March 25-April 1, and this caused heavy emergence from hibernation.

As of April 10, plum curculio adults continue to leave hibernation in numbers and are depositing eggs in little peaches on the trees. An average of 13 plum curculio adults per tree was taken on April 7 from the outside row of one commercial peach orchard.

Moderate to heavy infestations of cabbage aphids have been reported in

Colquitt, Grady, Thomas, Brooks and Lowndes counties.

Light to moderate infestations of Diamondback moth on cabbage in Colquitt, Grady, Thomas, Brooks and Lowndes counties have been reported.

Vegetable weevil in light to moderate infestations on tobacco plant beds in Tift, Colquitt, Grady, Thomas, Brooks, Lowndes, Lanier, Atkinson, Coffee and Jeff Davis counties.

Light to moderate infestations of tobacco flea beetle on tobacco plant beds in Tift, Colquitt, Grady, Thomas, Brooks, Lowndes, Lanier, Atkinson, Coffee and Jeff Davis counties. Moderate to heavy infestations on tobacco in the field in Grady, Thomas, Brooks, Lowndes and Jeff Davis counties.—W. C. Johnson.

Alfalfa Aphids Develop Slowly in Kansas

MANHATTAN, KANSAS—Spotted alfalfa aphid populations are developing slowly this spring in spite of overwintering as far north as Manhattan. Counts in 1956 in southern Kansas were as high as 3,000 per plant with definite damage to plants the week of April 9-13, 1956. The highest count in Cowley County April 5, 1959 was 83 aphids per plant. Most of the spotted alfalfa aphid counts in southern Kansas that week were 0 to 24 per 25 plants. In central and north central Kansas spotted alfalfa aphids are limited to road embankments with counts of 1-50 per 25 plants. Abundant soil moisture may speed plant growth for the first cutting before a severe population of spotted alfalfa aphids builds up.

Pea aphids can be found on alfalfa in most parts of the state. Populations of pea aphids are increasing rapidly but have not slowed plant growth. Greenbugs were still rated as non-economic or light in wheat fields examined in southeast and central Kansas.

Greenbugs were found in Harvey, Reno, Dickinson, McPherson and Marion counties. Counts in winter barley ranged from 4 to 12 per foot of row. Greenbug counts in the Labette Cherokee area ranged from 10 to 95 per ten sweeps of an insect net.

The greenbug threat will depend upon cool weather with slow growing conditions for wheat. Greenbugs per foot are a better indicator than yellow plants which could be caused by freeze or mosaic. A summary statement from research in Oklahoma indicates a wheat loss of one bushel per acre for every 13 to 29 days of feeding by 100 greenbugs per foot of planted wheat. Barley or spring oats will be damaged considerably more than wheat.—Dell E. Gates.



Hoja Blanca Disease Brought Under Control

GULFPORT, MISS.—Hoja Blanca disease, which was found in two rice plantings of about 85 acres in Hancock County last fall, is thought to have been brought under control in Mississippi. The infested rice fields near Bay St. Louis were destroyed and sprayed with insecticides.

According to records in the U.S. Department of Agriculture's plant pest control division office at Gulfport, only Florida and Mississippi as yet have been invaded by *Sogatia orizicola*, carrier of "white leaf."

Both the Gulfport laboratory and research scientists at Louisiana State University are vitally interested in preventing the spread of Hoja Blanca and are making every effort to eradicate the disease before it has a chance to spread into other areas.

The infestation at Bay St. Louis

was discovered by Dr. John G. Atkins, plant pathologist of the crops research division, rice experiment station, Beaumont, Texas, while making a routine survey of rice growing areas. These surveys revealed that Arkansas, Louisiana, Texas and the Mississippi Delta were, as yet, free of Hoja Blanca.

Cutworms, Beetles Said To Threaten Texas Cotton

WELASCO, TEXAS—The first survey of cotton insect conditions this year has been reported by James A. Deer, associate county agricultural agent. He says cutworms are reported from scattered fields throughout the Lower Rio Grande Valley. While the infestation covers a large area, the severity of it may not be too damaging yet.

Some darkling beetle damage has been reported from three South Texas counties. Aphids have also appeared in some fields, and in some instances aphicides have been included in the chemical treatment for cutworms.

Yellow dwarf, a virus disease of oats, wheat, barley and rye, has hit many fields in parts of Texas, according to Harlan Smith, extension plant pathologist.

The disease has been called red leaf at times when infected oat plants become a salmon-pink to red and become dwarfed.

Mr. Smith says the disease is spread by aphids, such as corn leaf and apple grain aphids and the small grain green bug. Some strains of these plants are more resistant than others. Control measures may prevent an aphid infestation, but once the plants become affected with the virus there is no known remedy.



Illinois Expects Less Stewart's Disease in 1959

URBANA, ILL.—Stewart's disease of corn will be less destructive in Illinois in 1959 than in any of the previous 10 years for which predictions have been made, according to the Illinois State Natural History Survey. No early season wilt is expected in the north half of the state, it says.

The northern two-thirds of the state had the coldest winter since the severe winter of 1935-36, the report says, and the extreme southern part of the state had the coldest winter since 1944-45.

The survey says that the disease produces an early season wilt and death of plants, especially in sweet corn, and a late season leaf blight which may cause premature death of plants. These two phases of the disease are expected to occur on susceptible varieties of sweet corn in 1959, particularly in the southern third of the state.

The Stewart's disease forecast is based on the close correlation that exists between the winter temperature and the amount of disease that develops during the following summer. The winter temperature affects the survival of corn flea beetles in which the Stewart's disease organism overwinters. In a limited survey made in March by Clarence White, entomologist of the Natural History Survey, no corn flea beetles were found in six soil samples from each of five east central Illinois counties and none were collected on March 19, and 250 sweeps when the grass temperature was 64° F.—G. H. Boewe.

PREDICTS GRASSHOPPERS

SACRAMENTO—Martin Poyner, grasshopper expert for the California Department of Agriculture, has forecast one of the worst grasshopper outbreaks in recent years for California. He estimates that this summer's siege will be considerably heavier than last year when an estimated \$1,000,000 in crop damage occurred. More than 4,500,000 acres of grass and rangeland in 49 counties will carry grasshopper populations of significant proportions, he says.

The dry winter is expected to promote an unusual incidence of hoppers moving from rangelands to cultivated fields in search of green food.

Grasshoppers are reported hatching east of Wheeler Ridge in Kern County and in San Luis Obispo County. Concentrations of grasshoppers, not yet hatched, have been found in several locations in Sacramento County.

Mr. Poyner estimated that grasshopper control measures in California last year saved growers \$23,070,000 and afforded protection to about 722,100 acres.

European Red Mites

Threaten Indiana Apples

VINCENNES, IND.—No hatched European red mites could be found on April 13; however, red mite eggs are abundant. Apple buds in this area are ready for miticide applications at this time. Duchess trees are in full pink and other varieties are approaching this stage of development.

Surveys continue to show a heavy population of red-banded leaf roller eggs in orchards. Peak of hatch will occur just prior to petal fall.

A block of Duchess trees near Vincennes has a moderate infestation of canker worm larvae feeding in the blossom clusters. Blossom clusters should be examined at this time for these tiny measuring worms.

Insect activity in peaches has been very light since April 9, owing to low temperatures. Activity can be expected to increase when the weather warms up. In five trees jarred in an unsprayed orchard on April 13, only 3 tarnished plant bugs were found and no curculio or stink bugs were taken, whereas five trees jarred on April 6 yielded 14 curculio and 4 stink bugs. At present, Red Skin peaches are in full bloom and other varieties are approaching full bloom.—D. W. Hamilton.

Nevada Workers Find Possible New Insect Species in Rabbitbrush

RENO, NEVADA—In the course of initial investigation of a research project, workers at the Max C. Fleischmann College of Agriculture, University of Nevada, have discovered what may prove to be a new species of insect inhabiting native ranges, according to Dr. E. G. Linsley, chairman of the department of entomology and parasitology, University of California at Berkeley, who will make positive identification.

Dr. Floyd Kinsinger, assistant range ecologist, and Robert Lauderdale, extension entomologist, report finding the insect in rabbitbrush. Dr. Kinsinger said they were fortunate in finding a male and female, each found in separate plants that had died a short time before.

The insects were found during work on a new project regarding the effects of insects on native ranges. This phase of range management has received very little attention in the past, Dr. Kinsinger said, but since it is known that insects affect agricultural crops, it was reasonable to as-

sume that they also have an effect on native range plants.

During the brief time this work has been conducted, they have found considerable damage to plants that has heretofore gone unnoticed. This is particularly true, he said, of root damage.

Four distinct kinds of insects, representing 11 or 12 species, have been discovered in the range plant life studied, but it is too early to determine their total effect. Present knowledge indicates that more than 75% of the native range plants may be suffering from insect damage. It is common, the researchers said, to find large portions of individual plants dead.

Reports in a thesis by Gerald Strickler, graduate student, show the number of totally dead whitsage plants found near Wells, Nevada, is directly correlated with root damage from insects.

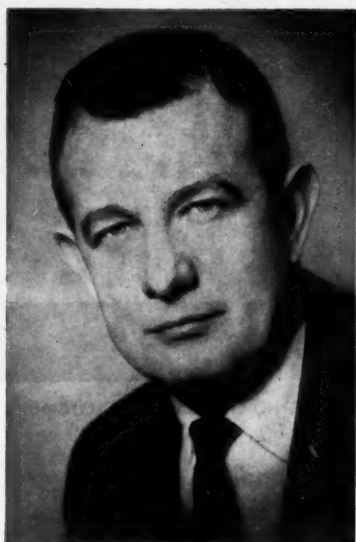
Possible benefits from the research project include: (1) Developing a control program for undesirable range plants using biological methods, (2) Developing a method of more quickly evaluating actual range conditions than by presently known means, (3) Providing information that would influence establishment of new seeded areas, (4) Providing a more accurate assessment of range carrying capacity.

Project work is being conducted by the department of agronomy and range management, assisted by Mr. Lauderdale and R. C. Bechtel, Nevada State Department of Agriculture survey entomologist.

Nevada Entomologist Warns Against Aphids

RENO, NEV.—Economic populations of spotted alfalfa aphids have been found in several areas of Washoe Valley and Spanish Springs Valley in Washoe County. According to Robert W. Lauderdale, extension entomologist, University of Nevada, they have developed at least three months earlier than usual.

The entomologist urged farmers and ranchers to examine alfalfa fields and watch them closely for any sign of the pest. This applies to all areas, he said, not only to Washoe County.



Robert W. Wert

IN NEW POST—The appointment of Robert W. Wert as field representative for chemical distributor operations has been announced by O. E. Hempel, manager of chemical distributor operations for the Minerals & Chemicals Corporation of America, Menlo Park, N.J. Mr. Wert will provide direct technical assistance to Minerals & Chemicals' 30 chemical distributors, located in the United States, Canada and Mexico, and their customers in the application of aluminum silicate pigments and Attapulga clays. He has been associated with the company for 14 years and was formerly manager, agricultural sales.

North Dakota Farmer Stops Weeds, Triples Wheat Yield

FARGO, N.D.—Yields were low on the 1,800 acre farm that George Lubbers, Burnstad, bought in 1940, and weeds—particularly quackgrass, Canada and sow thistle—were using water and plant food that should have gone into crop production.

Mr. Lubbers started a weed control program, with fallow, corn and alfalfa in his rotation. He used a one-way plow and a field cultivator in his tillage operations. This controlled the quackgrass, and it has remained under control.

Until chemical weed control came into the picture, Mr. Lubbers found the thistles almost impossible to control. He started chemical weed spraying in 1950, and the thistles were licked.

In 1940 top wheat yield on some of the best land was 12 to 15 bu. an acre. This same land, now free of

weed competition, has produced 30 to 45 bu. of wheat an acre despite a moisture shortage.

Weed seeds in the soil continue to sprout, so a yearly program for weed control is maintained.

Mr. Lubbers depends on livestock for a cash return from his farm, and says that livestock make it possible to set up a paying crop rotation which makes weed control less costly.

His conservation program includes grass waterways, fertilizer, pasture rotation and shelterbelts.

PROMOTION DIRECTOR

ITHACA, N.Y. — Merrills Dake, lime purchasing supervisor for Cooperative G.L.F. Exchange, Inc., has been named to direct G.L.F. lime promotion and to provide leadership on lime equipment and maintenance. The announcement was made by J. C. Crissey, G.L.F. soil building division manager, and Ronald N. Goddard, G.L.F. sales division manager.

Monsanto to Offer New Herbicide in Illinois

ST. LOUIS — Illinois growers are among the first to be offered a new, granular form of Randox, Monsanto Chemical Co.'s pre-emergence herbicide for annual grasses and certain broadleaf weeds in corn, soybeans and other crops, in a limited marketing of the compound in dry form which has been initiated by the St. Louis firm this year.

The company said the product was pre-mixed and ready to use and that it eliminates measuring and mixing errors and the time and expense of hauling water for mixing a liquid formulation. The reduced volatility of the compound in the granular form assures an extended active life of the compound in the soil, Monsanto said.

Randox has been on the University of Illinois' list of recommended herbicides since its introduction in 1956 for the control of annual grasses in corn and other crops.



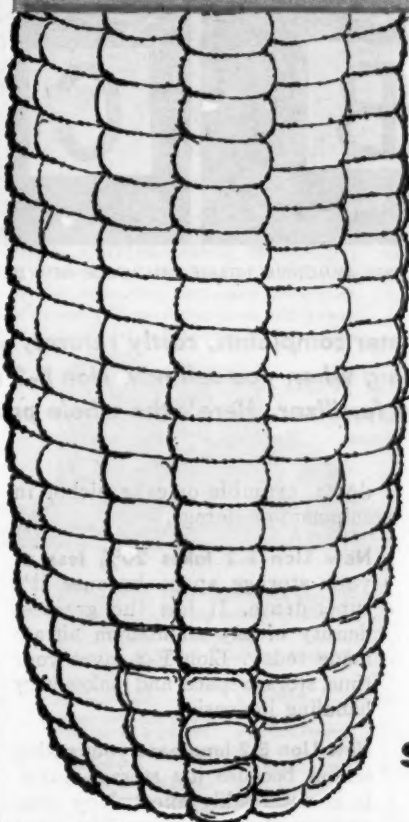
The Big News for 1959

—more working corn acreage
means

—more sales of

aldrin

SOIL INSECTICIDE



Corn acreage will increase in 1959. Here's a sure-fire way to make this increased acreage count for bigger sales. Include powerful aldrin in your formulations, for soil insect control.

Aldrin gains wider and wider acceptance each season. Growers rely on this powerful insecticide to knock out root-destroying soil pests such as rootworm, wireworm, seed corn maggot, white grubs and others.

Aldrin has a ready market. It can be packaged as a spray, as granules—or included in a fertilizer mix. (Aldrin is compatible with all fertilizers.) Whichever application method is used, aldrin gives the best in economical soil insect control.

Growers are pre-sold on aldrin through intensive magazine and newspaper advertising campaigns. Take advantage of the increasing demand for aldrin and watch your sales go up. Include economical aldrin in your line. Complete technical information is available. Write to:



SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION
460 Park Avenue, New York 22, New York

Productive Ability of Soil Still Good Even After 100 Years of Constant Farming

PORTLAND, ORE.—Analyses have been completed on soil samples from the first two counties under the "Century Farm" soil testing program, sponsored by the Pacific Northwest Plant Food Assn. These two counties are Jackson and Linn, both in Oregon. The results indicate that over 100 years of farming have not slowed down the productive ability of these soils.

Actually the tests compare favorably with the average of test results from all analyses completed by the laboratory for the two counties, the PNPFA report indicated.

In both counties an attempt was made to take samples that would compare the oldest and the newest soils on each farm but with a limitation that the old and the new samples came from comparable soil types, the report said.

Jackson County analyses indicated signs of passing years but not age in terms of producing ability. On farm No. 1 the pH was reduced from 7.2 to 6.5; available phosphorus was reduced from 200 lb. to 27 per A.; potash from 1,459 to 289 lb. and organic matter was reduced from 5.59 to 3.56%.

On farm No. 2 the pH dropped from 6.9 to 6.5; available phosphorus from 822 to 50 lb. per A.; available potash from 593 lb. to 265. The organic matter was reduced from 5.42% to 1.17.

On farm No. 3 the pH was reduced from 7.1 to 6.8; phosphorus from 106 to 38 lb. per A.; potash from 577 to 335 lb.; organic matter increased slightly from 2.67% to 3%.

On farm No. 4 the pH was the same at 6.6; phosphorus dropped from 67 to 38 lb. per A.; potash from 819 to 452; and organic matter from 3.31% to 2.51.

The reduction in pH is a logical result of use, though all samples still indicate a favorable soil reaction for crop production. The tests for phosphorus and potash indicate only the ability of the soils to supply these necessary plant nutrients. Some of the tests show a need for applications of phosphorus and potassium-carrying fertilizers. This is not unusual. Both are commonly added in the course of good farming operations even on soils farmed for the first time. The reduction in organic matter would be expected, and could account for part of the reduction in available phosphorus and potash.

The results from Linn County from ten farms show little indication of a reduction in either a soil reaction, available potash, or organic matter. Without much question, this is a result of the type of farming quite generally followed throughout the county for the past twenty years or more—farming built around the production of grass for seed.

Grass seed was the major crop on seven of the ten farms. Grass for pasture was the only crop on one farm; another produced grain in rotation with clover seed. The remaining farm produced strawberries in a good soil building rotation. Most of the farmers have been using nitrogen fertilizer which is the usual practice in the grass seed production.

Many of the tests indicate a need for lime, phosphorus, and potash should the cropping system be shifted from grass to crops that have more critical soil fertility requirements. Most of the Linn County farmers indicated that yields were substantially better now than they were in past years and gave credit for this increased production to the application

of nitrogen fertilizer though improved drainage, weed control and other factors have helped.

Results of analyses from twelve farms in Linn County reveal signs of age. Rather, they might indicate that grassland farming is a true "fountain of youth" for the soil. Contrasting samples revealed little significant change in soil reaction or available phosphorus and potash. The organic matter supply was adequately maintained on all farms and on some, probably increased.

Grass for seed or pasture was the

predominant crop on all but two farms, and on these good soil building rotations were followed. Grass demands little from the soil by way of mineral nutrients. It further provides near perfect protection from losses by erosion or leaching.

These test results are favorable from the standpoint of depletion. However, this does not mean that these soils are bursting with fertility. While there was little difference between the "oldest" and the newest field on each farm, both samples on eleven of the twelve farms indicated a need of lime applications for the growth of legumes. Available phosphorus was critically low on two farms and additions of phosphorus and potash would be needed for production of crops with higher mineral requirements than grass on a number of the farms.

Eleven of the twelve farmers said that yields were higher now than when they started farming. Yield improvement was credited to drainage,

better equipment, weed control, and the use of commercial fertilizers. Fertilizer, predominantly nitrogen, was given major credit for improved production. Funds for the project have been donated by the Pacific Northwest Plant Food Assn.

National Potash Promotions

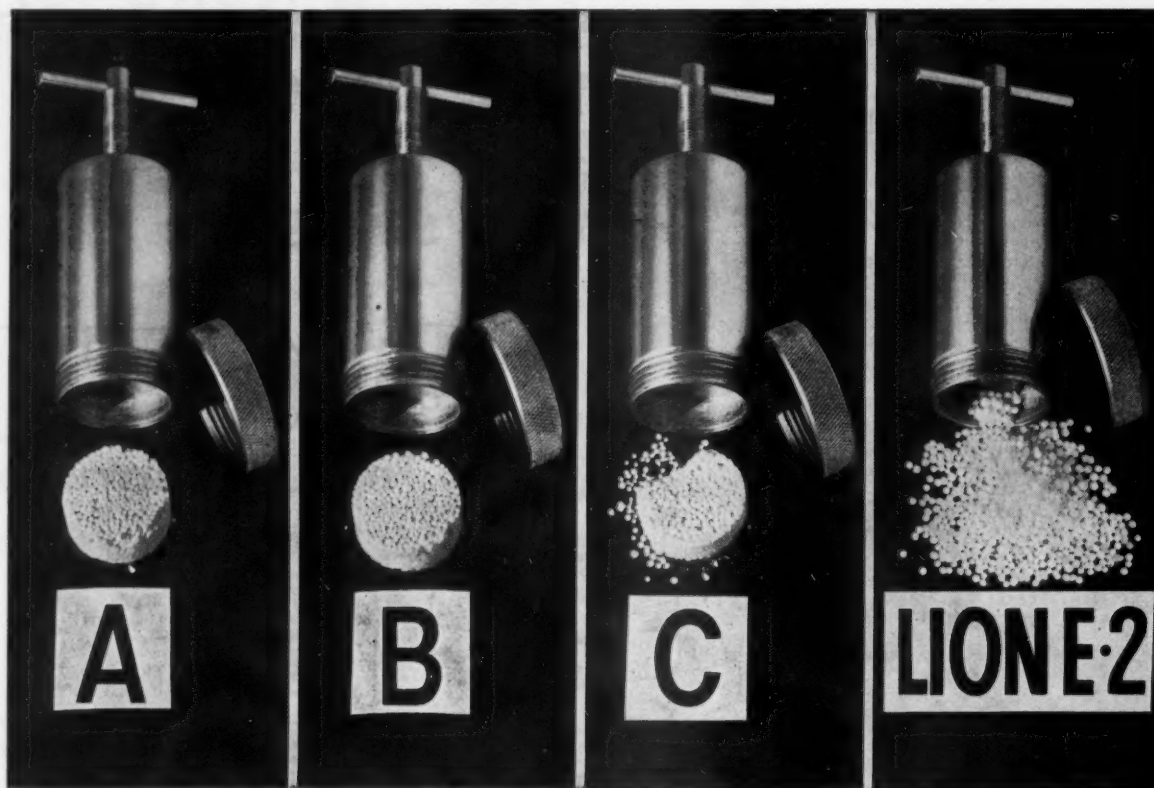
CARLSBAD, N.M.—The National Potash Co. here has announced promotion of R. J. Ferranti to refinery superintendent and of Lloyd W. Weems to succeed Mr. Ferranti as refinery shift foreman, according to T. G. Ferguson, general manager.

INSECT CONTROL CIRCULAR

TUCSON, ARIZ.—"Cotton Insect Control," a newly revised edition of the University of Arizona extension circular 179, is now available for distribution. J. N. Roney, extension entomologist, and George Wene, experiment station entomologist, are the authors.

It's a fact: Monsanto's new fertilizer discovery acts like "profit insurance" for you!

ONLY NEW LION E-2* ENDS



COMPRESSION CHAMBER TESTS PROVE NO OTHER AMMONIUM NITRATE CAN MATCH NEW LION E-2 FOR NO-CAKE, DUST-FREE PERFORMANCE

No more customer complaints, costly returns, double handling or extra bookkeeping when you sell new Lion E-2 no-cake ammonium nitrate fertilizer. Here's the whole profit story.

New Lion E-2 is the first truly non-caking ammonium nitrate. Lion E-2 was developed by Monsanto scientists seeking to end one of the major problems plaguing you and your customers: fertilizer caking. Tested in the field under all extremes of temperature and humidity, Lion E-2 just wouldn't cake.

New Lion E-2 won't gum up, clog or bridge in your customer's spreader. The uniform prills are 50% harder... free of irritating dust and fines. They won't break

down, crumble or cake either in shipment or storage.

New Lion E-2 takes 20% less of your storage space because it's super-dense. It has the greatest density of any ammonium nitrate made today. Lion E-2 saves your time, storage space, and makes your handling job easier.

New Lion E-2 lengthens your selling season because it's storage-stable. It is not readily affected by temperature changes or humidity. Your

customers can buy any time and store safely until used. LION E-2 may well prove your big year-round volume builder!

Lion E-2 is guaranteed not to cake in the bag in your place or on your customers' farms. From all angles, Lion E-2 is the superior-quality ammonium nitrate... yet it sells at ordinary ammonium nitrate prices. Sell your customers the best... you'll keep old customers coming back and gain many more new ones who want the best: new Lion E-2.

Rains Delay Spring Farm Work in Georgia

ATHENS, GA. — Continued rain through March and into April has delayed farming operations in all sections of Georgia, the Crop Reporting Service report showed.

Land preparation and planting of the spring crops are from one to two weeks behind schedule, especially in most of south Georgia.

The end of the first week in April, however, brought some sunshiny weather, and the farmers began to get their land ready, some of them operating their tractors day and night. Transplanting of tobacco was under way, but is late. Planting of cotton, normally active by April 1 in southern counties, had not been started in most sections.

Small grains improved during March due to rains and mild temperatures, and top dressing has been applied to these crops in most sections. The condition of wheat and oats was

reported as mostly good. Prospects for peaches are reported as good in all sections. Early bud thinning operations have been finished in central and southern counties. Winter pastures are in excellent condition.

Early planted vegetable crops are reported by state market managers to be in only fair condition. Planting of vegetables, cantaloupes and watermelons has been delayed, and some of the farmers who planted melons are having to replant them.

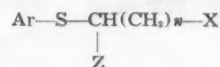
APPOINT DISTRIBUTOR

JERSEY CITY, N.J. — The Wasatch Chemical Co., Salt Lake City, Utah, has been selected by the Onyx Oil & Chemical Co. here to distribute Onyx' chemical products in the Idaho, Montana, Utah and Colorado areas, was announced by F. O. Robitschek, Onyx' president. L. E. Thatcher, Wasatch's manager of industrial chemical sales, will be in charge of the newly added Onyx product line.

Industry Patents and Trademarks

2,880,137

Fungicidal Preparations. Patent issued March 31, 1959, to William O. Elson, West Chicago, Ill., assignor to the Kendall Co., Boston, Mass. The method of inhibiting the growth of pathogenic, parasitic fungus which comprises contacting the growth with a composition containing from 2 to 10% by weight of a compound having the general formula:



in which Ar is a phenyl group; Z is a member selected from the group consisting of hydrogen, and an alkyl radical containing from 1 to 5 carbon atoms; n is a numeral varying from 0 to 4; X is a member selected from the group consisting of the hydroxyl

radical and a carbalkoxy radical in which the alkyl group contains from 1 to 3 carbon atoms; and from 90 to 98% of a carrier therefor.

2,880,082

Method and Composition for the Control of Undesired Vegetation. Patent issued March 31, 1959, to Burton V. Toornman, Scotts, Mich., assignor to the Dow Chemical Co., Midland, Mich. A method which comprises exposing growing plants and plant parts to the action of a growth inhibiting amount of a compound selected from the group consisting of 2,2-dichlorobutyric acid and its salts.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

Design, rectangular block with the words Stauffer (in Old English style hand drawn letters) Chemicals Since 1885 in reverse letters, for plant hormones and soil treating agents. Filed March 24, 1958, by Stauffer Chemical Co., San Francisco, Cal. First use October, 1954.

Fer-Till-See, in script type, for nitrate of ammonia fertilizer. Filed May 23, 1958, by Chemex Corp., New York, N.Y. First use Jan. 16, 1958.

Crab-X, in capital letters, for chemical crab grass killer. Filed March 21, 1958, by Northrup, King & Co., Minneapolis, Minn. First use March 4, 1958.

Design, oval shape with the word Champar in black in the center, with a drawing of a head of wheat under the oval, for fungicides, insecticides, herbicides, miticides, rodenticides, defoliants, fumigants, fertilizers and other substances. Filed March 28, 1958, by Champar Chemical Co., Inc., New York, N.Y. First use Feb. 25, 1958.

Design, black circle with the numbers 6-12 and the words six-twelve in reverse lettering, for insect repellent. Filed May 21, 1958, by Union Carbide Corp., New York, N.Y. First use about July, 1948.

Design, black rectangular block with word Dormatone in reverse capital letters, for chemical preparations for inhibiting or delaying the sprouting of root crops—namely potatoes. Filed June 23, 1958 by Amchem Products, Inc., Ambler, Pa. First use July 21, 1948.

Glyoxide, in large black hand drawn letters, for fungicides and miticides. Filed Aug. 7, 1958, by Pittsburgh Plate Glass Co., Pittsburgh, Pa. First use May 1, 1958.

Benzabor, in capital letters, for chemical weed killer. Filed Aug. 28, 1958, by United States Borax & Chemical Corp., Los Angeles, Cal. First use Aug. 1, 1958.

Design, eye-shaped block with hand drawn letter and diamond inside the circle of the a, for pesticides and other products. Filed Sept. 4, 1958, by Diamond Alkali Co., Cleveland, Ohio. First use February, 1912.

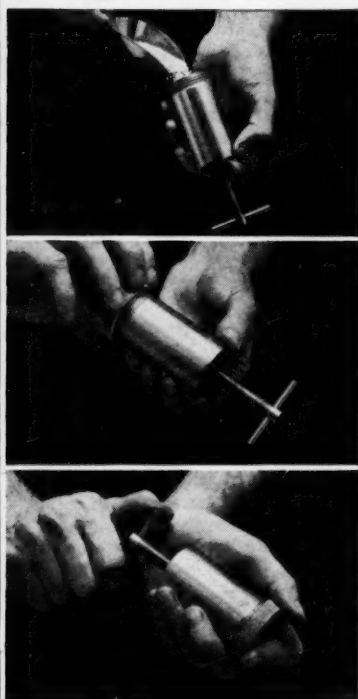
Joins Engineering Firm

NEW YORK — Roman Chelminski has joined Singmaster & Breyer, New York metallurgical and chemical process engineering firm, as an associate. He previously had been a senior partner of Knowles Associates for 12 years.

PROPOSED PLANT

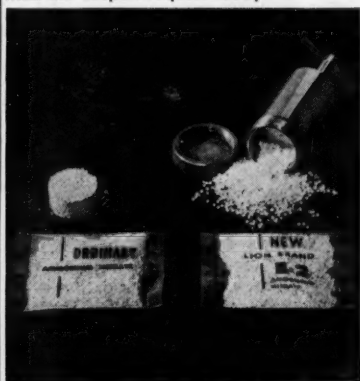
PIQUA, OHIO — A proposal for a jointly-owned plant, using garbage and refuse from Piqua and Troy, has been presented to representatives of the two cities. The Organic Corporation of America, Pittsburgh, presented the proposition.

CAKING PROBLEMS FOR GOOD!



HOW TESTS WERE MADE . . .

1. Steel compression chamber is filled with prilled ammonium nitrate.
2. Steel cap closes chamber.
3. Pressure up to 600 lbs. per sq. inch is applied by turning T-bar.
4. See Lion E-2 tested in your own store . . . compare results with any other ammonium nitrate you might be carrying. Mail the coupon request today!



CONVINCING ADVERTISING AND STORE PROMOTION NOW BUILDING FARMER INTEREST IN LION E-2

Eye-catching, hard-selling advertisements in FARM JOURNAL, CAPPER'S FARMER, PROGRESSIVE FARMER, FARM AND RANCH are backed up by state farm publications, local county newspapers. Your customers will be reading about, asking about Lion E-2. Colorful Promotional Aids Hike

Volume. Window and wall banners . . . facsimile bag cutouts to hang from the ceiling . . . full-color framed bulletin board . . . literature and sample dispenser for your counter . . . ad mats for your local use . . . all designed to help you do a bang-up sales job on new Lion E-2.



NEW LION E-2
Always stores...
Always pours

*T.M. Monsanto Chemical Co.



NEW BROCHURE gives you all the big selling advantages. For your copy, MAIL COUPON TODAY!

Monsanto Chemical Company
Inorganic Chemicals Division
Dept. CL-1, St. Louis 66, Missouri

Name _____
Firm Name _____
Street or R. R. No. _____
City or County _____ State _____

- ☐ Please send free copy of "The Lion E-2 Brand Story"
- ☐ I would like to see Lion E-2 demonstration
- ☐ I am now handling Lion E-2
- ☐ I am not now handling Lion E-2

Great 1959 Hi-D[®] AMMONIUM NITRATE program gives you 5 helping hands!

① BIGGEST OUTDOOR EVER



— with powerful four-color billboards dominating the rural scene at 710 locations in 8 key states.

② BIGGEST TELEVISION EVER

— with an intensive 10-state, 13-week campaign launched from 14 TV stations.



③ BIGGEST RADIO EVER



— using 67 stations to blanket 15 states with the Hi-D story for a solid 13 weeks.

④ DYNAMIC 4-COLOR ADVERTISING



— in "Farm Journal" . . . "Capper's" . . . "Progressive Farmer" . . . and "Farm & Ranch" for a whopping delivery of over 17,000,000 sales messages about Hi-D.

⑤ POWERFUL POINT OF SALE



— with four-color window banner, counter displays, samples, consumer folders and technical data service.

The 1959 Hi-D Program is the soundest and sellingest you ever benefited from. And—every ad emphasizes the mixed goods you sell, tells your customers that mixed fertilizer comes first, then the supplementary boost of Hi-D.



COMMERCIAL SOLVENTS CORPORATION
STERLINGTON, LA. • ST. LOUIS, MO. • ATLANTA, GA. • TERRE HAUTE, IND.

Variety in Farm Lines Helps Build Maryland Firm

By AL P. NELSON
CropLife Special Writer

Variety in farm supply lines is helping Zurgable Bros., Emmetsburg, Md., attain a high volume of business.

Several years ago the firm, which is operated by Henry, Roger and Maurice Zurgable, handled only farm implements and bagged formula feeds. When their customers started asking for additional items and services the brothers began building a variety.

Comprising the backbone of the firm's related lines are fertilizer, seeds, insecticides, sprayers, spray materials and cracked corn. A lively business in Purina bagged feeds is also handled by the firm.

Farm machinery, milking machine parts, power mowers, garden tractors, farm hardware, ladders, paints, chain saws and garden and lawn tools have been added in recent years. Also carried is a stock of overalls and men's khaki clothes, because farmers asked for them.

"This is fast getting to be a one stop store," reports Maurice Zurgable. "A farmer or part time farmer can come in here intent on buying just one thing. But, he may walk out of here having bought two or three additional items. Our displays help sell him the extra items. No customer is going to know what you've got in stock unless you show it to him."

"The advantage of this type of business is that most of it is cash," states Mr. Zurgable, "and we have hardly any delivery problem. With no delivery to speak of, our costs of doing business are cut down considerably."

While the firm is located on a busy highway, there is ample parking space in front of the business and on the side of the structure.

"Not so many years ago our chief volume came from farm implements," states Mr. Zurgable, "but farms have become smaller and our implement

(Turn to VARIETY, page 13)



REQUESTS FOR SPRAYERS prompted Zurgable Bros. in Emmetsburg, Md., to add sprayers to its varied farm supply line. Here Maurice Zurgable, one of the brothers, sells a farmer a hand spraying unit.



ZURGABLE BROS. in Emmetsburg, Md., is rapidly becoming a "one-stop" type farm store. "Now when a customer comes in intent on buying just one item, more than likely he'll go out with a couple," says Maurice Zurgable.

Outside Salesmen Are Key Ingredients In Texas Company's Selling Program

Outside selling is one key to more sales. As a result of such a sales program, the Jones Feed Co. of Beaumont, Texas, can point to a steady increasing sales volume.

The outstanding feature of this company's selling program is the division of the firm's trading area into two distinct sales territories. An outside salesman covers each of the sections and makes calls on customers in their area every week.

"We have found that the most important part of outside selling is calling on customers once every week," explained Robert E. Jones, owner. "Customers can plan their feeding accordingly and can always get additional feed by calling the store."

"Another important point on calling on customers every week is to call on them on the same day each week and as near the same hour as possible so your customers will know exactly when to expect you. Most farmers and ranchers are working when the salesmen make their calls and often are away from the house. If they know when to expect the salesmen they can meet them at their house, eliminating a time-waste for both parties."

In determining the daily calls to be made, each salesman checks the route to be followed and tries to anticipate the approximate time he will need to spend at each customer's house. He allows a few minutes to take care of any problems his customers have. If a salesman is running 30 minutes ahead of his schedule, he checks his territory for new customers that he can add to his route and makes calls during this extra time.

The two outside salesmen have been carefully schooled in the care of both poultry and livestock. In addition to their responsibility of keeping their customers supplied with quality merchandise in the right amount, they also have the obligation of offering competent advice on their problems. These salesmen restrict their advice to minor problems like culling and blood testing chickens and drenching cattle. For other problems, they con-

sult experts for the right information.

The salesmen make their calls in panel company trucks. As a means of assuring instant identification, the trucks have been painted uniformly and have large, easily recognizable signs and letters in the company colors of red and white.

The two outside salesmen work four days each week outside selling in their territory and the fifth day they work in the company store. This way they can read and check information that has come in during the week. They check customers coming into the store and offer to make calls on them at their homes if the customer desires.

Fast delivery service is used by the Jones firm to back up the outside salesmen. The salesmen turn in their daily orders every evening and the first thing next morning all workers are used in the delivery room to make up the orders. All orders are delivered the next day unless a customer asks for a special delivery. The company uses 5 delivery trucks to make certain that the customer gets prompt action. Orders are taken until one each day for delivery that day in town.

"We offer to bring customers anything they need from the store and anything else we don't carry if the customer needs it in an emergency," explained Mr. Jones. "A few weeks ago a customer wanted a steel wheelbarrow and we couldn't find one in town. We did locate him one in a hardware store about 25 miles from the store. We didn't make a dime out of the sale but that customer reminds us that we did him a good turn every time he enters the store."

Mr. Jones makes a trip once or twice each week on one of the deliveries to check with customers to see if they are getting the type of service they want. He talks over their problems with them and helps in any way possible. Customers really appreciate this extra attention.

Customers shopping at the store are assured of extra fast service. There are two salesmen ready to take

orders and help with questions. A special two-way communication system from the front office to the warehouse can get a customer's order to the front in less than three minutes. There are four men available to drop what they are doing to get the orders together in the least possible time. Regular drive-in service is offered and customers do not have to leave their cars unless they desire to do so.

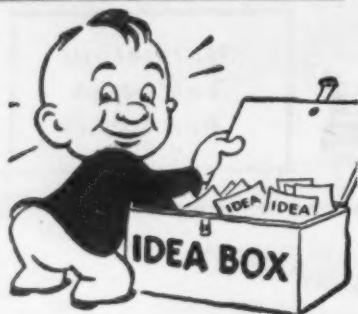
The Jones firm does a large volume of fertilizer business and boosts its sales through the use of a spreader. This service is free and the company salesmen will help customers use it properly.

Feed is the big seller of the Jones firm and is sold heavily every month in the year. To round the year out and make other departments take the spotlight, they promote seed in the spring, fertilizer and remedies in the

(Turn to OUTSIDE, page 11)



ROBERT JONES, above, is the owner of the Jones Feed Co., in Beaumont, Texas. Mr. Jones believes that outside selling has been a key to increased sales at his firm.



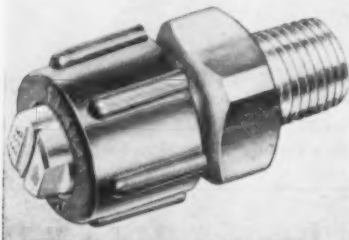
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6893—Plastic Sprayer Nozzle

Delavan Manufacturing Co. has introduced a nylon nozzle for use in the agricultural sprayer industry. According to the company, the basic advantage of the nozzle lies in its ability to



withstand the corrosive effects of agricultural chemicals, especially the liquid fertilizer solutions. The available nylon parts consist of the nozzle cap, nozzle body and nozzle strainer. The tip can be furnished in brass, aluminum or stainless steel. Complete details are available by checking No. 6893 on the coupon and mailing to this publication.

No. 6891—Liquid Seed Bean Treatment

Parsons Chemical Works announces a "Seed Saver Brand" B-59 liquid

seed bean treatment, with or without dye. The product is a liquid insecticide and fungicide for all varieties of seed beans. According to company literature, the treatment eliminates mold, seedling blight, seed-borne organisms and soil-borne organisms. It also controls damage from wireworms and maggots, the company says. The material can be used in any automatic or slurry bean treater, the company said. Complete information mailed upon request. Check No. 6891 on the coupon and mail.

No. 6895—All Purpose Sprayer

A new model all purpose sprayer has been introduced by Spra-White Chemical Co. Called the "Spra-Master," the unit features a fiberglass



tank and "boom extenders." The fiberglass tanks are new with the company this year and are available in 200 gal. capacity only, the firm said. The

tanks are also available separately for mounting on any trailer or trailer sprayer and can be ordered in any color when ordered as tanks alone, the company says. The Spra-Master carries a three section, 20 ft. aluminum or galvanized steel boom. Boom extender nozzle attached to the ends of the boom as standard equipment offer a continuous spray pattern approximately 10 ft. beyond each end of the boom, the company says. For details, check No. 6895 on the coupon and mail.

No. 6894—Cattle Spray Brochure

A colorful, fold-out type brochure has been made available by Glenn Chemical Co., Inc., concerning the firm's product "Tabatrex." The illustrated publication contains information about what the product can do for dairy herds, the farmer, the dealer and the distributor. Aimed at all formulators, the brochure discusses the firm's 1959 advertising and promotion plans. Specifications and information about the product are given. Copies are available by checking No. 6894 on the coupon and mailing.

No. 6896—Grass Control Promotion

A promotion program based on trial of the product has been launched by the Dow Chemical Co. The program will support the sale of Dowpon as a grass control agent, the company said. Feature of the promotion will be the offer of free trial packages of Dowpon through Dow dealers, the company said, and all



dealers signing up for the program will be stocked with 2 oz. packets of Dowpon to be given away to customers. The sample contains enough herbicide to treat 225 sq. ft. in a fence line, along a driveway or around a building, the company said, and the material can be applied with usual hand equipment or even with a sprinkling can. Details can be obtained by checking No. 6896 on the coupon and mailing to this publication.

No. 6898—Mobile Sprayer Bulletin

Mobile "Paragon" power and hand sprayers for lawn and garden use are detailed in a fully-illustrated bulletin published by the Campbell-Hausfeld Co. Featured in the bulletin are two new 15 and 30 gal. power sprayers, the company says. The bulletin illus-

trates both units and details construction highlights. Features of the company's hand sprayers are shown in a cutaway illustration. This section also describes operating features. Accessories and other models are also described and illustrated. Copies are available. Check No. 6898 on the coupon and mail.

No. 6897—Insecticide, Fumigant Bulletin

"Useful Information for Users of Insecticides and Fumigants," is the title of a bulletin made available by Acme Protection Co. The four-page publication briefly assembles informa-

USEFUL INFORMATION FOR USERS OF INSECTICIDES AND FUMIGANTS



ACME PROTECTION EQUIPMENT CO.

tion on the history, use, hazards and protection for users of modern insecticides. It also describes available mask equipment. Copies of Bulletin No. 591 are available upon request. Check No. 6897 on the coupon and mail to this publication.

No. 7452—Equipment Leasing Study

"The Pros and Cons of Equipment Leasing for Smaller Manufacturers, Stores and Supermarkets," is the title of a study published by the Foundation for Management Research. The 16-page study discusses the cost of leasing compared with outright purchase and purchase through conditional sales contract. Complete cost charts are used to illustrate the material. Advantages and disadvantages of equipment leasing in specific business situations encountered by smaller enterprises are set out in detail. Copies are available by checking No. 7452 on the coupon and mailing to this publication.

Also Available

The following items have appeared in the What's New section of recent issues of CropLife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6886—Cotton Insecticide Folder

A folder describing the use of Sevin insecticide on cotton is now available from Union Carbide Chemicals Co., division of Union Carbide Corp. The features of the insecticide are explained in the folder, the company says, as well as a listing of insects on which it is effective. The folder is in color and is illustrated with photos of a number of different insects. Check No. 6886 on the coupon and mail for a copy.

No. 6887—Formulation List

Formulations aimed at increasing effectiveness of household, garden

Send me information on the items marked:

- | | |
|--|--|
| <input type="checkbox"/> No. 6882—Fertilizer Spreaders | <input type="checkbox"/> No. 6893—Plastic Sprayer |
| <input type="checkbox"/> No. 6886—Cotton Insecticide Folder | <input type="checkbox"/> No. 6894—Cattle Spray Brochure |
| <input type="checkbox"/> No. 6887—Formulation List | <input type="checkbox"/> No. 6895—All Purpose Sprayer |
| <input type="checkbox"/> No. 6888—Insecticide Applicator | <input type="checkbox"/> No. 6896—Grass Control Promotion |
| <input type="checkbox"/> No. 6889—1959 Sprayer Line | <input type="checkbox"/> No. 6897—Insecticide, Fumigant Bulletin |
| <input type="checkbox"/> No. 6890—Applicator | <input type="checkbox"/> No. 6898—Mobile Sprayer Bulletin |
| <input type="checkbox"/> No. 6891—Liquid Seed Bean Treatment | <input type="checkbox"/> No. 7452—Equipment Leasing Study |
| <input type="checkbox"/> No. 6892 Fertilizer Promotion Kit | |

(PLEASE PRINT OR TYPE)

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 319,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept.

Minneapolis 40, Minn.

PYRENONE*

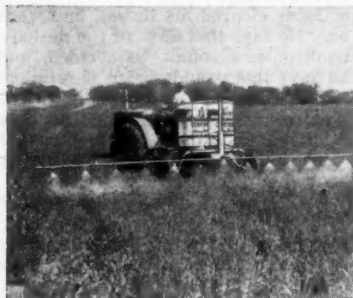
Condensed

House & Garden
Products

and truck crop insecticides against resistant insects are included in a folder being offered by Fairfield Chemicals, Food & Machinery and Chemical Corp. The folder lists suggested formulations for dual purpose home and garden sprays, horticulture sprays, fungicide additives, emulsifiable garden sprays and concentrates and garden and truck crop dusts. Also included are model front and back package labels with accepted wordage for declaration of contents and directions for use. Check No. 6887 on the coupon and mail for details.

No. 6889—1959 Sprayer Line

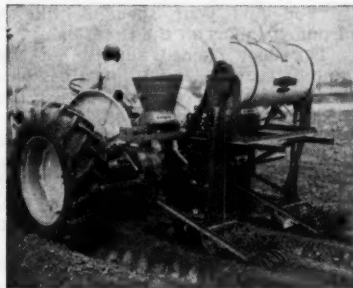
The 1959 line of spray equipment, with additional improvements and simplifications, has been announced by Century Engineering Corp. The "A-2" sprayer will be standard with 6-row boom that can be converted to 8-row with a set of extensions, the company said. The basic unit can be used on a tractor or trailer mounting and the dealer has a choice of pumps.



Improvement features, according to company literature, include increased boom height adjustment, improved regulator, a self locking chain for height adjustment, a regulator stand which places the regulator close to the operator and more factory assembly. Complete details are available by checking No. 6889 on the coupon and mailing to this publication.

No. 6890—Applicator

Gustafson Manufacturing Co., Inc., announces the addition of the CS-G model for chemical band treatment to

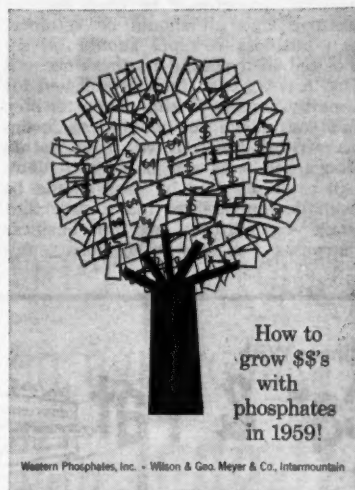


the company's line of Chem-Soil Mixers. The model was developed, company literature says, for the application of fungicide to control Southern blight in peanuts, but it also may be used for dust and granular insecticides, herbicides and dry fertilizer materials. The unit is easily mounted on the tool bar of most tractors and planters, the company says, together with a chemical distributor to apply and mix the chemical simultaneously with planting. The distributor meters the chemical over a 10 in. band cen-

tered on the furrow. A double gang of rotary hoes serves to mix the chemical with the soil to a proper depth, the company says. Check No. 6890 and mail for details.

No. 6892—Fertilizer Promotion Kit

A dealer promotion kit containing sample sales aids for Anchor phosphate fertilizers has been announced by Wilson and Geo. Meyer & Co., Inc. Included in the kit are Anchor "Crop Quiz" pads, dealer ad proofs, a broadside for store display, an illustrated information booklet and a counter display containing free literature. The



How to
grow \$\$'s
with
phosphates
in 1959!

Western Phosphates, Inc. - Wilson & Geo. Meyer & Co., Intermountain

broadside has an attached dealer reply card. Details are available by checking No. 6892 on the coupon and mailing to this publication.

No. 6888—Insecticide Applicator

An applicator for soil insecticides has been announced by Noble Manufacturing Co. According to company literature, the unit's main element is a 50 lb. capacity hopper that fits all planters, listers or seeders, with one hopper for every two or three rows being worked. The hopper is powered by the drive shaft of the planter. Flexible steel drop tubes in the hopper bottom direct the granules into proper position for effective killing. The machine has universal mounting,



the company says, and by means of a split drive sprocket can be attached to the planter's drive shaft without removing the shaft. A calibrated metering dial gives the operator positive control of application rate. Details are available by checking No. 6888 on the coupon and mailing.

No. 6882—Fertilizer Spreaders

The Ezee-Flow division of Avco Distributing Corp. announced the



availability of its 1959 line of fertilizer spreaders. Spreader models 120D (illustrated), 100D and 88D, of 12 ft., 10 ft. and 8 ft. widths, feature a patented removable cam agitator that can be lifted out of the hopper for easy cleaning, the company said. The cam agitator grinds, mixes, levels and forces fertilizer out port openings through positive camming action, the company said. The agitators are case-hardened to crush the hardest fertilizer lumps. Complete product and soil test kit information can be obtained by checking No. 6882 on the coupon and mailing.

Sales in the States

LEXINGTON, KY. — Fertilizer sales in Kentucky during February, 1959, amounted to 45,763 tons, which was 12,626 tons more than February a year ago, reported the Department of Feed & Fertilizer, Kentucky Agricultural Experiment Station. Grade 5-10-15 was the most popular, with 11,959 tons being sold. Most popular material was ammonium nitrate, with 2,284 tons being sold.

TALLAHASSEE, FLA.—Fertilizer sales in Florida for February, 1959, amounted to 215,495 tons, reported Nathan Mayo, commissioner, State of Florida Department of Agriculture. Most popular grade was 04-07-05, which sold 14,826 tons. Most popular material was dolomitic limestone, which sold 18,885 tons.

COLUMBIA, MO.—Fertilizer consumption in Missouri during 1958 was 790,651 tons or 10,559 tons less than in 1957, reported the University of Missouri Agricultural Experiment Station. Most popular grade was 12-12-12 and most popular material was rock phosphate.

MONTGOMERY, ALA. — R. C. (Red) Bamberg, commissioner, Division of Cooperatives & Reports, Alabama State Department of Agriculture & Industries, reported that 22,377 tons of fertilizer were sold in the state during January. This compares with 14,988 tons sold during January, 1958. Grade 4-10-7 was the most popular with 5,318 tons being sold.

LITTLE ROCK, ARK.—Fertilizer sales in Arkansas during February, 1959, amounted to 21,308 tons or 1,967 tons more than February a year ago, reported the State Plant Board. Most popular grade was 5-10-5, which sold 2,200 tons.

OUTSIDE

(Continued from page 9)

summer and hay in the fall months.

"We are fully convinced that the two outside salesmen have played a big part in the success of our company," concluded Mr. Jones. "Customers tell us they appreciate the time it saves them and the help these men give them. They really like being able to do their shopping right in their own homes."

STATE'S TOP FARMER

JACKSON, MISS. — William McCullough, World War II veteran, was selected Mississippi's Outstanding Young Farmer for 1959 by the Junior Chamber of Commerce. Mr. McCullough was picked over 20 other area representatives and was cited for employing modern agricultural techniques on his farm at Houlika. He and his wife will get an all-expenses paid trip to Cedar Rapids, Iowa, where he will represent Mississippi in the national contest.

SPRAYING SYSTEMS **SPRAY NOZZLES**
and related equipment
for better lower cost farm spraying

TeeJet
SPRAY NOZZLES
For uniform spray distribution and exact volume control.

BoomJet
SPRAY NOZZLES
For spraying grains and grasses... and liquid fertilizers.

ACCESSORIES FOR BOOM AND HAND SPRAYERS

Split-Eyelet Connectors Tee Valve Pressure Relief Valves
Gunjet Spray Guns

For complete information write for Catalog 30

SPRAYING SYSTEMS CO.
3214 Randolph Street
Bellwood, Illinois

Faster, More Uniform Lime and Fertilizer Spreading With a NEW LEADER L-19S SPREADER



- PTO Driven, self-unloading Lime and Fertilizer Spreader!
- Twin Spinners and 24' Conveyor!
- Fast, low cost operation!
- Available with full line of optional attachments!

MAIL TODAY
HIGHWAY EQUIPMENT COMPANY
681 D Ave. N. W. Cedar Rapids, Iowa

NAME.....
ADDRESS.....
TOWN.....STATE.....

Mail coupon for L-19S literature and a copy of "Your Land Is Different" a booklet designed to help you sell more bulk fertilizer.



Secret of Good Record Keeping Lies in Knowing Which to Keep

"Just to be safe I've kept every record of my business for the past ten years and look where it's got me! Now I'm going to have to find more space to store the darn things!"

The man speaking was an over-cautious farm equipment dealer. Some one had told him that he must keep every scrap of paper concerned with his business for tax purposes. While many records must be retained for a good length of time to be on the safe side, it is foolish to burden one's business with the cost of retaining every scrap of paper.

Federal law requires that every business liable for any federal tax, or the collection of any federal tax, must keep adequate records to show the correct amount of the tax due.

It further states that such records must be maintained in order that one's tax returns may be examined without undue loss of time. At present most officers are working on a three year basis.

Investigators of the department, when checking a return, have as little desire to wade through countless small records as the average dealer had to retain them in the first place. They have developed very good systems for detecting evasions, mistakes and leaks, and they seldom depend on detailed minor records.

The records that must be maintained regularly and kept filed away for possible future reference are those which will substantiate items appearing on one's tax return and generally speaking such records should show income, deductions, credits, employees' names and addresses and social security numbers, sales or rentals of items subject to excise taxes, and so on, etc.

It should be remembered that the need for retaining countless invoices and memos is seldom justified if a summary record evidence of the small individual transactions is kept. If a supplier, for example, presents a monthly statement detailing invoices for the previous month, retention only of the monthly statement will suffice. This, backed up by a receipt of payment or cancelled check shows

the transaction. The tax investigator can, if he suspects major fraud, easily penetrate further into such transactions.

Most of the burden of keeping useless records for tax purposes falls into retention of such single transaction invoices, statements and charges which are covered by other records. It's unnecessary duplication in record keeping.

The income tax law does not specify the kind or content of records which one should retain. The items of information the dealer needs to make adequate records are left to his individual discretion. Usually it is wise to pick the simplest system available because of the cost of keeping an elaborate set of books. As long as this shows the items of information we need as a basis for making business decisions and accurately and

clearly reflects income, deductions, credits and other matters required to be shown in the tax return, the dealer has fulfilled his obligation.

The volume of records he must keep through the years can also be reduced at this point by using a compact bookkeeping and tax record system rather than an assortment of books or other forms of record.

However this can go too far, of course, for memorandums or sketchy records which merely enable one to approximate income, deductions or other pertinent items affecting tax liability are not considered adequate for compliance with the law.

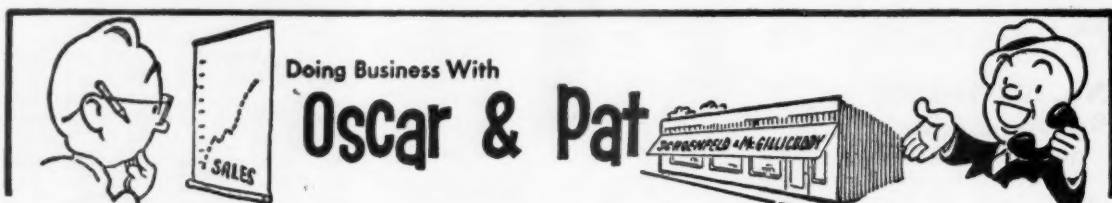
Bank account records are of the utmost importance in checking tax returns and all should be retained. All business receipts should be deposited in a special business account and a petty cash fund established for small expenses. Taking the latter step will cut down the volume of inconsequential records we must retain concerned with our bank statement. All expenses paid by cash should be well documented to make sure that such expenditures are for business purposes. For very small sums usual-

ly a notation in the records will suffice; on major items a receipt should be secured and kept.

It is best to make every possible disbursement by check, and the dealer should avoid writing these to cash or himself to pay business expenses. This simply requires the addition of another record to substantiate what was done.

The monthly bank statement, all deposit slips and all checks written against it, must be retained as part of one's permanent records. These are judged to be of key importance by tax examiners. In some instances dealers can reduce the volume carried over the years by culling out from the files any checks which may have been written for other than business purposes or for which there is no specific tax purpose involved.

Bank records (check voucher books, etc.) may be requested but if the monthly bank statements, deposit slips and deposit pass book and all checks have been kept, the basically important records are there. Should any be lost and be needed most banks keep 35mm film records on file covering these items and prints can be



By AL P. NELSON
Croplife Special Writer

It was a rainy spring day, with only a few patches of ice resisting the onslaught of spring. At the Schoenfeld & McGillicuddy farm supply store the lights were on brightly, the store was full of merchandise, but there were no customers. Oscar and Pat had learned from experience that a light rain meant that farmers would come to town and shop, but a heavy rain in spring meant that farmers would stay home; usually they did not like to risk travel on their secondary and farm roads for fear of getting stuck in the mud.

"Oscar," said Pat suddenly, "I really think we ought to try some Rainy Day specials to get farmers to come in and buy on days like this. We could cut prices on one or two items, and then when farmers come in to buy we can hope they'll place orders for other regular priced merchandise."

Oscar Schoenfeld looked up from his discount work. He was frowning. "No!" he snapped. "We have used about 25 promotions too many this year already. Himmel, man, quit always talk about sales promotions. Let's sell what we got and collect for it, without any sales expense for awhile. Then we make more profit, nein?"

They say that when it rains the barometric pressure is low, and when barometric pressure is low human beings become more irritable and prone to temper.

Pat McGillicuddy looked up a little angrily from his desk. "Why, Oscar, you've got it all wrong. A business has to keep promoting various products and services to meet competition, to progress. Just listen to this—"

He picked up a magazine clipping. "Here is what a retail expert said at a convention. 'Retailers are not doing all the business they could. They are not playing up their products with expert counseling. They are not letting the customer self service enough. The customer likes to browse, to pick up merchandise, to snoop—let him do it. You'll make more sales.'"

Oscar granted derisively.

"Retailers are not keeping their stores clean enough, not well lighted enough. What many retailers need is personnel training, sales promotion, completeness of stock and cheerful-

ness of sales persons. Retailers need better public relations, better clerk efficiency, better sales management. They need better knowledge and help. Retailers have been looking for someone to furnish them with all these things, but they had better start getting after these things themselves and get out and fight for more business."

Pat laid down the clipping and smiled. "You see, Oscar, the need of the day is more sales promotion, more customer contacting."

"Ach, it is not," Oscar said brusquely. "That fellow who writes like that, maybe he neffer had a retail store. He chust sits back on his bacon and thinks and then writes schtuff like that and gets paid for it. That's his chob, to write schtuff like that and to go out and make speeches and get paid for it. I don't believe a wordt he says. Let him come and work in this store for a week; then let him talk to me. Let him try to keep you from spending us into bankruptcy. Let him try to collect from some of these farmers that buy furniture and televisions on time, and then let us wait for fertilizer money. Ach, you talk like a baby, McGillicuddy."

Pat flushed a deep red. At this point Tillie Mason got up from her desk. "All right, you two. If you are going to blow your tops, I don't want anything to do with it. Remember, I told you I'd go and get coffee and doughnuts every time you argued—and I'm getting awfully fat. Phone me at Happy's lunch when you are through arguing."

Neither partner noticed when she went out the door. Necks craned, eyes glaring, they stared at each other. "Oscar, the whole town is laughing at you, you are so tight," Pat said. "This time I am going to let you have it, begorra. They joke about you in taverns, on the farm, everywhere, and they make fun of how you save paper clips, rubber bands, scrap paper and all those things. Wake up, man. It takes sales and more sales, begorra, to keep this business going. You are just dead timber around here, believe me."

Oscar smiled like Lon Chaney used to do when he approached his victim in a haunted house. "Ach, all the time you are readink schtuff from the papers from fellows who want more speakink chobs and article assignments. I clip from the paper, too. Now I will readt something to you."

Oscar's hands trembled a little as he held out a clipping. "This is a report put out by Federal District Judge Wm. Clarke of New Jersey about bankruptcies, yah. He has studied them for many years; he knows what's what."

Oscar cleared his throat, and went on. "He says that 75% of the nation's bankruptcies could be avoided, and he says this would be so if retailers would keep proper books. Yah, and that means takink discounts, too. He said that 90% of the businesses that went kaputt did not keep proper books. Are you listening, Trisher?"

Oscar smiled thinly. "Open your ears a little more now, yah. The judge says that 15% of all failures could be traced to carelessness in granting credit. McGillicuddy, you are always laffink at me for my book work and my discounts. We would be bankrupt today if I didn't make all that money for us on discounts, and if I didn't keep after you to collect from poor pay farmers, and to cut down your spendink all the time."

"Sure, and we would be bankrupt if I didn't go out and sell all the time, and kept the shelves filled with merchandise so we'd have something to sell, and if I didn't keep a few lights on around this place so customers can find us on dark days. You and your pinch-penny habits."

"You and your spendink like a drunken sailor, all the time. Bah..."

The door opened slightly on the warehouse side. Jim Hunt, a customer, heard the argument, closed the door and turned away.

"Holy smokes," he said to Red Cochran, "Oscar and Pat are really going at it this morning, ain't they? Too bad you fellows can't hear so well out here in the warehouse. You're missing something."

Red Cochran grinned through his freckles. "Oh no, we don't miss much. When those two argue we plaster our ears against the walls near the doors and windows and we hear a lot. Heck, that's half the fun of working here—just to hear them two lay each other out."

Jim Hunt grinned. "Well, they sure tell each other everything when they get mad. That's the kind of fight a husband and wife oughta have now and then—don't pull any punches. Then the air is clearer afterward."



WHEN YOU SPRAY THE BROYHILL WAY WEEDS AND PESTS WILL DISAPPEAR, BROYHILL SPRAYERS ARE LOW IN COST NO MONEY OR LABOR IS EVER LOST!!

THE BROYHILL CO.-DAKOTA CITY, NEBR.

DOOM

MILKY DISEASE SPORES

Control

JAPANESE BEETLE GRUBS

The Japanese beetle spends most of its life in the grub stage in the soil. The microbial spores of milky disease have proved fatal to these grubs without affecting other forms of life. One easy application of DOOM is all that is needed.

This self-perpetuating and useful grub disease will spread.

10 sq. pgs. 2,500 sq. ft. lawn \$3.59
20 sq. pgs. 5,000 sq. ft. lawn 7.10
2 1/2 lb. pgs. one-fourth acre 14.00

DEALERS WANTED

FAIRFAX BIOLOGICAL LABORATORY
CLINTON CORNERS, N. Y.

obtained. It is advisable to make sure that one's bank does this and exactly what records may be available should they be needed.

Many dealers find themselves in trouble with tax authorities when returns are examined because they failed to classify expenditures and set up records accordingly. Like items should be grouped under appropriate headings and so filed.

Depreciation is a major item of importance in tax returns and the records concerning this deduction should be such that they show proof of purchase, of price paid originally and disposition of the item being depreciated when the latter step is taken. No other records concerning the depreciated items are of importance for this tax purpose.

It is also good business for the dealer to keep very accurate and detailed records concerning all withholding taxes. Records should be kept in detail for both the Social Security and Unemployment Tax and these retained.

Dealers should also keep detailed records of any entertainment or travel expenses for which tax deductions are claimed. This is always an item examined with closest scrutiny and one for which an examiner may require more proof than any other. Every such expense should be well documented. However this, too, can be carried to extreme. The Bureau of Internal Revenue will seldom question reasonable meal expenses and tips, for example, connected with a business trip provided adequate other records are available to show that the trip was actually taken. Credit cards for restaurants, travel and other expenses facilitate matters because a single monthly statement is usually sent out.

The dealer should also retain a carbon copy of all tax returns which he files as a permanent part of his records. They will be particularly valuable should something happen to his original returns in the tax offices or on file therein.

Gloomicides

Lady friend of ours, about 40, went to her doctor the other day. "I just don't know," she said. "I just don't feel too well when I get up in the morning."

The doctor fixed a weary eye on our lady friend, and demanded, "Who does?"

★

Her father asked his prospective son-in-law if he could support a family, and we have to admire the young man's answer—"No, sir, I was only planning to support your daughter. The rest of you will have to take care of yourselves."

★

The hysterical golfer rushed into the clubhouse shouting that he had just killed his wife. "I didn't know she was behind me," he sobbed. "I started my back swing and the club hit her on the head. She was dead before she hit the ground."

"What club were you using?"

"The No. 2 iron."

"Oh, oh," murmured the other, "that's the club that always gets me in trouble, too."

★

A seventh grader, suddenly smitten by a classmate, announced on Friday afternoon that he was going to phone her and ask her to go to the movies with him that night. His older sister was horrified. "You just don't call a girl in the afternoon and ask her for a date that night," she said. "You call her at least a week ahead of time."

"A week," he groaned.

"Well," she said, relenting a little, "at least not later than the Monday before the date."

"Monday!" he protested. "But I didn't even like her until Wednesday."

VARIETY

(Continued from page 9)

volume has gone down the last few years while the feed, seed, fertilizer and other lines' volume has gone up. This shows how the market is changing."

Mr. Zurgable points out that the variety of the firm's products and services not only gets more dollar volume of business from each farmer patron, but the additional lines bring in traffic which is non-farm, so to speak. Much of this non-farm traffic has sizable gardens, maybe a small flock of chickens or some fruit trees. Such customers work full time elsewhere, and usually have the cash to pay promptly for their farm supply store purchases.

This store sells about 50 power mowers annually and approximately 35 garden tractors. Clarence Wivell is the store's repair man on power

mowers and garden tractors and he services about 175 mowers and 50 tractors a year, he says. Customers know that the store gives service like this, and that is one reason why they buy here.

"When a gardener brings a garden tractor or a power mower here for repairs, it is not unusual for us to sell him fertilizer and seeds for the garden, plus a garden tool or two," declares Mr. Zurgable. "Later we may get some insecticide and sprayer business from him, not to mention farm hardware. One sale really leads to another."

This store operates with four employees and usually stays open on holidays and all day Saturdays. This gives the farm and urban trade a chance to buy at times when most other stores are closed, and when

customers have time to look at displays.

The Zurgables use several step up islands for display in their farm store. These islands have four display levels of varying lengths. The islands are four feet wide and eight feet long. Placed along high traffic lanes the merchandise thus shown gets impulse sales. Thermos jugs, lunch buckets and other merchandise used by farmers and workers get display on such islands along with farm chemicals and sanitation products.

Many farm hardware items, such as saws, pulleys, crowbars and other tool items used by gardeners and farmers are displayed on wall hooks and really catch the attention of many prospects.

PECAN BULLETIN

COLLEGE STATION, TEXAS— "Pecan Diseases and Insects and Their Control" is the title of a bulletin released by the Texas Agricultural Experiment Station.

Offer your customers an agronomically superior fertilizer with long-feeding, insoluble nitrogen Use Du Pont UAL-37

Growers in recent years have shown an ever-increasing interest in fertilizers that furnish slower-acting, long-feeding nitrogen. They know the value of nitrogen that nourishes plants at the rate required for maximum growth and yields—that resists leaching and remains in the root zone where plants readily absorb it.

Du Pont UAL-37 furnishes nitrogen in three forms—ammonia, soluble organic (urea), and insoluble organic. One-fifth of the nitrogen is the insoluble portion. It's of proven high agronomic value, particularly for long-season crops and grasses.

The insoluble nitrogen supplied in UAL-37 is long-feeding, of the ureaform type. Its continuous rate of nitrification yields available plant food long after soluble forms have been exhausted.

Take advantage of the growing trend toward long-feeding fertilizer materials with

UAL-37. Du Pont specialists can give you at-the-plant advice, and stand ready to assist you in profitably formulating mixtures containing UAL-37. For further information on UAL-37, fill out and mail the coupon.

HERE ARE OTHER IMPORTANT ADVANTAGES OF DU PONT UAL-37

- Produces mixed goods of outstanding physical properties, because the ureaform in the mixture has a specific conditioning effect.
- Safe in granulation . . . no danger of flash fires and less stack. Gives firm, uniform, stable granules, best for storage and application.
- Suitable for either batch or continuous mixing.
- Gives mixed goods better "feel"—minimizes caking, segregation, and dusting.
- Won't corrode regular fertilizer manufacturing equipment, including ordinary steel and aluminum.
- Prompt, dependable delivery enables you to schedule your production with confidence.

URAMON®

AMMONIA LIQUORS



BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Polychemicals Department, Room N-2539
Wilmington 98, Delaware

Dear Sirs: Please send me more information on UAL-37.

Name _____

Firm _____

Address _____

City _____ State _____



FARM SERVICE DATA

Extension Station Reports

County agents of the Clemson extension service, Clemson, S.C., report successful demonstrations have been conducted in the control of billbugs, the number one pest of corn in the Pee Dee area of the state.

Specialists in Clemson extension entomology and plant disease work say these successful demonstrations are based on several years of experimental control of the pest. They point out that field demonstrations and training meetings have placed county agents in a position to render effective service to corn growers and fertilizer-pesticide mixers in the preparation and use of the insecticide-fertilizer mixtures recommended for billbug control. They add that county agents are taking the lead in guiding the use of these mixtures in their respective counties.

The specialists call attention to the recommendations for billbug control which in brief are as follows:

"Proper rotation is effective. Broadcast, disked-in preplanting application of 2 lb. aldrin wettable powder an acre gives good control. Double rates on heavy organic soils. Suggest mixing aldrin with fertilizer for easy application, and treatment of fields where billbugs pass the winter."

The specialists caution there are certain "musts" in the use of aldrin-fertilizer mixture which should be observed. These "musts" are: (1) Only the aldrin wettable powder is now recommended; (2) don't use granules; (3) don't apply in drill—the mixture must be applied broadcast; (4) the mixture must be applied to the land where the billbug is spending the winter; (5) the mixture must be applied before the billbugs emerge; and (6)

the mixture must be disked into well-prepared soil.

★

"The adequate use of lime and fertilizer combined with other good management practices has increased yields, lowered unit costs of production, and increased net income from the production of cotton, corn, and coastal Bermudagrass," says W. H. Sell, extension agronomist with the Georgia Agricultural Extension Service.

This statement was based on the results of a number of demonstrations conducted during the past year throughout the state. With cotton, yields range from 432 to 1,235 lb. of lint an acre with an average for all demonstrations of 952 lb. an acre. Eight out of the 13 demonstration plots produced over 1½ bales of lint an acre and the demonstrations were carried out on plots which varied individual in size from five to 25 acres.

Growers applied lime and fertilizer in keeping with the recommendations of the extension agronomists and with one exception caused by poor stand unit production costs ranged from 19¢ to 29¢ per pound of lint.

"Adequate fertilization paid off well in the production of corn," said Mr. Sell. "Yields ranged from 51 to 103 bu. an acre on a number of 10-acre demonstration plots. Cost of production varied from 58¢ to \$1.25 a bu. with an average cost of production of 86¢ a bu."

"Results of fertilizing coastal Bermuda which was used both for hay and grazing were encouraging. Hay yields ranged from five to 7½ tons an acre while grazing ranged from

100 to 130 animal days an acre."

"These demonstrations show the importance of good management and the adequate and intelligent use of lime and fertilizer in producing high crop yields in Georgia," concluded Mr. Sell. "Soil acidity and low soil fertility are almost always the two factors first limiting high crop production in this area and when overcome the crops can be produced as efficiently here as they can anywhere in the country."

The corn and Coastal Bermudagrass demonstrations were supported, in part, by a \$2,000 grant from the National Plant Food Institute.

★

Sugarcane growers who want more profits from their crops should not attempt to cut costs by reducing the amount of fertilizer they are using, warns Denver Loupe, associate specialist (agronomy) with the Louisiana State University agricultural extension service.

"Dollar for dollar, the farmer's investment in fertilizers is still the best investment he can make in his sugarcane operation," Mr. Loupe asserts.

"Most soils in the sugar belt require only the addition of nitrogen for high yields of sugarcane," he explains. "However, as farmers continue to harvest yields of 30-40 tons of cane an acre and to apply large amounts of nitrogen, the land may develop a need for phosphorus and potash."

"Where nitrogen is the only fertilizer needed, apply 60-80 lb. of actual nitrogen an acre to plant cane and 80-100 lb. to stubble. Where a soil test shows a deficiency of phosphorus and potash, 25-40 lb. of phosphate and 40-60 lb. of potash an acre is sufficient.

"For best results, the fertilizer should be placed deep. Satisfactory responses have been obtained from cane where the fertilizer was placed 14 in. deep, but getting fertilizer this deep isn't always practical. The farmer should try to place it at least 6 or 8 in. deep. He can't expect to get best results from fertilizers at a depth of only 3 to 4 in."

Mr. Loupe explains that deep applications place the fertilizer in the area where the most moisture is and where the most roots are feeding. Also the fertilizer is then out of the reach of Johnson grass.

The specialist adds that, although fertilizer recommendations have not changed greatly in recent years, fertilizer use in the cane belt continues to increase. This indicates, he says, that more and more growers are using the maximum amounts recommended.

★

Excellent control of annual grasses and broadleaved weeds in corn has been attained with simazin in tests conducted by Virginia Polytechnic Institute Agricultural Experiment Station, and the material shows up this year for the first time in weed control recommendations for Virginia.

However, Dr. G. M. Shear, plant physiologist at the station, says the material may be too expensive for widespread use by growers of field corn. Sweet corn growers, on the other hand, can usually afford to spend a little more in producing their crop.

Simazin is a pre-emergence spray, and should be applied at the time of planting at the rate of 1½ lb. an acre. Researchers in other states where work has been done with the material are suggesting higher rates, but on most Virginia soils 1½ lb. is about right, Dr. Shear says. It can be used in band applications instead of overall applications to reduce the cost.

The use of proper chemicals to control weeds in corn can generally save the time, trouble, and cost involved

in making two cultivations, Dr. Shear said.

The Virginia trials have been concerned with field corn. However, U.S. Department of Agriculture tests have shown equally good results with pre-emergence simazin sprays on sweet corn.

Dr. Shear said Virginia tests are continuing with simazin, and with other materials, at least one of which holds promise of being equally as good when applied as a post-emergence spray.

★

Nematode root knot is a serious disease of peaches in South Carolina, especially peaches grown on the sandy soils in the Savannah Valley area of the state.

Research by the botany and plant pathology department at Clemson College has shown that ethylene dibromide, dibromochloropropane, and D-D are promising nematocides found to be effective in controlling this disease.

Dr. H. H. Foster, associate plant pathologist, and W. H. Rhodes, superintendent, Sandhill station, say most peach orchards in the Savannah Valley area of South Carolina have been found to be infested, at least to some extent, with root-knot nematodes. In many of these orchards, root knot is so prevalent as to represent the major factor limiting the economical production of peaches.

A long range pre-plant experiment using nine different nematocides, each at two different rates, was established at the Sandhill station at Columbia during 1956-57. Root-knot nematode infested soil was distributed to all tree locations in advance of the soil treatments in order to insure more uniform results. The treated areas covered 100 sq. ft. at each tree site and were approximately comparable to commercial orchard pre-plant "strip" treatments.

Applications of certain nematocides to the planting sites before the trees were set resulted in good early control of nematodes and also increased growth and vigor of the young trees. Among the more promising nematocides tested were ethylene dibromide, dibromochloropropane and D-D mixture. At the close of the second growing season most of the treated trees were superior in size and vigor to the untreated trees.

These tests will be continued to determine the effects of the treatments on yield and quality of fruit and on the bearing life of the trees.

★

When 482 farmers residing in 47 different counties in West Virginia were asked: "Do insects damage your alfalfa?", 344 or 71.6% said "yes."

The insects that they said damaged their alfalfa were reported the following number of times:

Spittlebug, 268; leaf hopper, 138; alfalfa weevil, 77; aphid, 28, and flea beetle, 1.

"Only 128 or 37.2% of the farmers reporting damage apparently felt that the damage was great enough to warrant control measures. Perhaps the balance is not aware of the toll that insects take from their hay crop. This is usually the case until the damage is severe," R. J. Friant, extension agronomist at West Virginia University, commented.

Those who did either spray or dust to control insects reported the use of heptachlor by 89; heptagram, 19; lindane, 5; methoxychlor, 4; malathion, 3; malathion and heptachlor mixed, 3; benzenhexachloride, 3; parathion, 1, and DDT by 1 person.

"The damage may be greater than is generally realized, and a knowl-

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Crophile Marketing Editor

Dollar for dollar, local newspaper advertising is the best promotion value you can buy today. Those are the words that began an article in the Building Specialties & Home Improvement Dealer.

The article lists several reasons why many dealers feel that way about local paper advertising, mainly coverage, cost and flexibility.

"Good coverage means first that it reaches your market. A newspaper's circulation is localized and reaches more than half the homes in its specific locality. This means you can measure response to a specific ad quickly and accurately."

In another paragraph on coverage the article urges that the dealer's phone number be prominently displayed in every ad . . . "and the reader should be told why and how he should call you right away."

"Newspaper ads are extremely low-cost items per thousand of homes reached," the article continues. "Even within a very limited advertising budget you can afford to buy a good deal of local newspaper space. More frequent, regular ads produce better results than an occasional appearance. The amount of space each time doesn't have to be large. But appearing often, and if possible in the same approximate location in the paper, your company's name will become well known. The well-known name is the name that comes automatically to the prospect's mind."

Flexibility is also very important in advertising, it is pointed out, and promotion in a newspaper will probably fall into three categories.

To announce a new product or service, this is a news item.

To sell a standard product; this is

a reminder. It emphasizes your reliability as a quality dealer.

To level off your seasons. If you run into a slow period, you can easily offer special tie-in or combination sales. If you don't have a particular item to push, you can offer tips to homeowners or tell them something of interest about your firm . . . anything to keep your name in front of them.

The article also reminds that the use of white space in an ad is just as effective as the written material. If you want to talk about more than one item, it says, take a larger space rather than crowding the ad.

"Remember, too, that it's far from necessary to talk about your whole line in each advertisement. A reader becomes interested when he sees one item that looks worthwhile and is attractively displayed. Presenting a whole raft of products may easily lose his attention."

edge of how, what, and when to use present-day spray and dusting materials is important," the extension agronomist emphasized.

★

With three weeks of good weather behind them, Mid-South farmers are well ahead of schedule in spring land preparation. Mississippi, Arkansas, Tennessee and Missouri extension service officials report that farmers in many areas have planted corn, although widespread planting is not expected to get under way for another week or ten days.

In Arkansas, associate extension service director C. A. Vines said land preparation is well advanced for this time of year and that some cotton has been planted. However, he says most of the cotton will be going into the ground very soon.

West Tennessee farmers are getting their planters in shape for the coming season. Small areas of corn and soybeans already have been planted.

Some corn has been planted in southeast Missouri and most farmers are far ahead of normal schedules in spring plowing. Many farm operators have their corn ground broken and have made their first fertilizer application. Cotton producers are busy with pre-planting applications of anhydrous ammonia.

Corn planting is well under way in almost all parts of Mississippi and cotton planting is in full swing in the southern part of the state. Cotton normally is planted about the middle of April in southern Mississippi.

★

The yield of soybeans depends on the right combination of many production practices, says M. P. Lacy, associate agronomist, Virginia Polytechnic Institute, Agricultural Extension Service.

Adapted varieties, time of planting, rate of planting, fertility, lime and weed control are some of the more important practices in soybean production. Of these practices, Mr. Lacy says, fertility is often the most neglected.

The fact that soybeans do not generally respond to direct fertilizer application does not mean that the soybean crop requires a small amount of plant food. Actually, a good soybean crop will remove from the soil more plant food than an equivalent corn crop. It is therefore important that adequate fertilizer be applied through sound "rotation fertilization" to grow all crops in the rotation, including soybeans, efficiently.

Fertilizer for soybeans can be applied on any crop in the rotation, such as corn, small grains or even on cover crops. If fertilizer for soybeans is applied in this manner, it is not necessary to fertilize the soybean crop directly. If adequate fertilizer is not applied in the rotation for soybeans, the soybean crop should be fertilized with 30 to 50 lb. of phosphorus and 60 to 100 lb. of potash (available in a 0-1-2 ratio) to maintain the fertility of the soil.

Soybeans will respond to direct fertilization if the soil tests low in phosphate or potash. High soil fertility and lime, correctly applied, will increase soybean yields.

★

Potash fertilizer and an insecticide sometimes can help reduce the lodging problem in corn.

Three University of Minnesota extension specialists found this true in demonstrations last summer in Nobles County.

Where they sprayed 1½ lb. of dieldrin an acre on the soil surface, there was much less corn down than in plots not treated. Using the dieldrin treatment and 47 lb. of potash an acre also resulted in less lodging.

Use of both dieldrin and potash re-

sulted in fewer broken and leaning plants than where the extension men had applied dieldrin alone.

This, the specialists say, was in a field known to be badly infested with corn rootworms, one of the principal causes of lodging. The tests were done by Harley Otto, agronomist, Herbert Johnson, plant pathologist, and John Lofgren, entomologist.

But, they add that demonstrations in several other counties last summer showed no consistent advantage in either the insecticide or fertilizer treatment or in lowering the number of plants per acre. However, lodging was not as much of a problem in general last summer as it has been in many other years, and several years of tests are needed to find the best way to combat the trouble.

Past evidence from around the country shows that a number of things are to blame for corn lodging. Some scientists have found that adding potash will reduce

lodging while nitrogen will increase it. Rootworms, other insects and diseases play a part; hybrids with greater disease and insect resistance and stronger stalks seem to be bothered less by lodging.

In general, lodging is worse with high plant populations, especially above 20,000 an acre. Yet, farmers need at least 16,000 or more corn plants an acre to get good yields. So the problem, the specialists point out, is to find the "happy medium."

BITTERWEED CONTROL

FAYETTEVILLE, ARK. — Bitterweed was controlled with amine herbicides applied in early April, and later spraying, before bloom, was also effective in tests conducted by the University of Arkansas Agricultural Experiment Station. Materials used in the tests were 2,4-D, 2,4,5-T, MCP-amine and an experimental benzoic acid-based formulation.

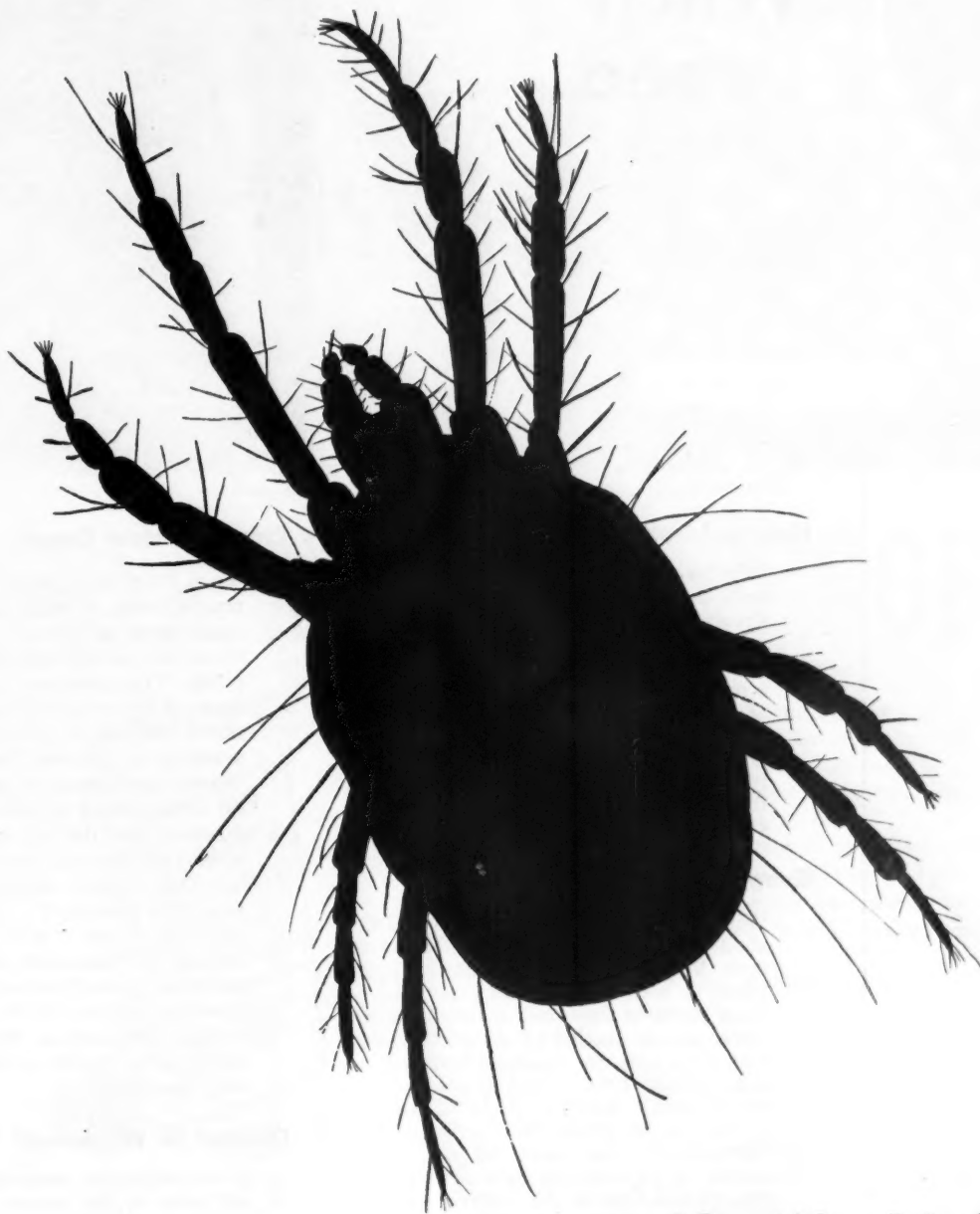
Azalea Trail in Mobile Threatened by Blight

MOBILE, ALA.—Mobile's Azalea Trail is in danger of annihilation this year from a fungus which attacks the blooms as fast as they open causing them to turn watery, blotched and wilted.

Dr. R. L. Self, plant pathologist at the Mobile ornamental horticultural field station of Alabama Polytechnic Institute, said that during warm, humid weather, the fungus can easily wipe out the Azalea Trail, unless bushes are sprayed at least every third day.

Big gardens in the Mobile area are carrying on a spray program to maintain the blooms and a few home owners are inquiring about what to do, Dr. Self said.

Demonstrations are being conducted at the API field station to show those interested what to do to control the fungus, Dr. Self said.



can you identify this bug
by its silhouette?

Call it a mite and you call it right. Diamond Ovex controls it effectively.

Each application is effective for a long time and gives excellent protection against mite build-up. Yet Ovex has a residue tolerance easily met at

recommended rates, and low toxicity to desirable insects.

Available as a 50% wettable powder or as technical material for formulators. Notable for its compatibility with other common spray ingredients,

Ovex can be used in multiple spray mixes for substantial savings in cost of application.

Write for details. Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio.



Diamond Chemicals

WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Witch- weed

(*Striga asiatica*)



How to Identify

Witchweed is a deceptively pretty plant, with bright green stem and leaves and showy nasturtium-red flowers having yellow centers. Blossoms are shaped somewhat like violets. The weed grows 6 to 12 inches high, sometimes as tall as 18 inches. The plant has multiple branches, both near the ground and also higher on the plant. Leaves are relatively long and narrow, not much wider than the breadth of the stem. Both leaves and stem have a fuzzy appearance.

Growth Characteristics

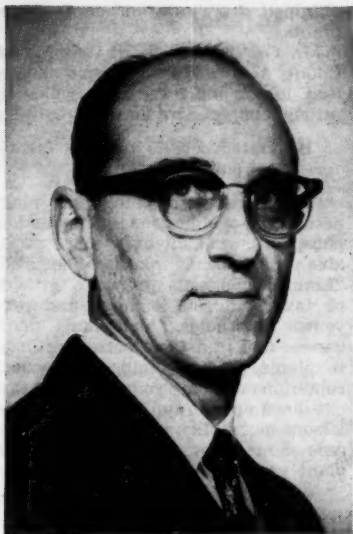
Witchweed seeds are minute, requiring about 125 laid end to end to measure an inch. Major difficulty in controlling the plant is seen in its ability to produce from 50,000 to 500,000 of these tiny seeds which can be carried by wind and water, and with soil on shoes and wheels to other fields. This is further complicated by the seed's ability to lie in the soil for as long as 20 years waiting for a host. When such a host (corn, sorghum, other crops) is planted, its presence triggers the germination of the waiting parasitic seeds, the rootlets of which reach out and attach themselves to the roots of the host plant. The advance cells of the parasitic root give off a ferment that softens or dissolves the cell walls of the host tissue so that finger-like tubes can penetrate the nutrient pipelines of the host and the parasite lives and grows on the juices thus stolen.

Effect on Host Crops

Since the host plant is robbed of its nourishment, it wilts and takes on the appearance of being drouth-stricken. However, no amount of rainfall brings relief. Transpiration (giving off moisture) of the attacked plant is reduced by about half and the plant suffers a sudden stunting of growth, turns yellow, then brown, and sooner or later dies. So similar is the effect of witchweed to certain diseases, that the real cause of trouble is often not detected immediately. Damage is compounded in subsequent crop years, but since the weed is relatively new in the U.S. where it was first identified in 1956 in the Carolinas, actual losses have not been great. However, losses in grain-growing regions of the Anglo-Egyptian Sudan have run as high as 66%, with losses of a quarter or third of the crop very common.

Control of Witchweed

Comprehensive research efforts are under way to find means of effective control by both chemical and cultural methods. Experience from countries where the weed has existed longer than in the U.S. has been utilized, including tests to find "trap plants" which emit a "host extract" causing witchweed seeds to germinate but are not themselves hosts. Farmers in all areas should be reminded to watch for witchweed symptoms.



Charles L. Sapper

IBM SUPERVISOR—Charles L. Sapper has been named IBM supervisor of The Miller Publishing Co., Milton B. Kihlstrum, president, announced recently. Mr. Sapper is currently organizing the publishing firm's new electronic tabulating department and will be responsible for circulation fulfillment of the company's seven business publications, including Croplife. For the past six years he was with the Meredith Publishing Co. in Des Moines where he supervised circulation fulfillment services for Better Homes & Gardens and Successful Farming.

BOLL WEEVIL

(Continued from page 1)

gia, Virginia, and the Piedmont sections of North Carolina and South Carolina this spring than in 1958.

Entomologists of the state agricultural experiment stations and USDA's Agricultural Research Service co-operated in the survey, made by examining woods trash near cotton fields for live weevils in typical areas of the Cotton Belt. Completed in March, the cooperative survey is a follow-up of counts made each fall of hibernating weevils. The spring survey shows how many survive the winter.

In northeastern Louisiana, the average number per acre in three parishes was 2,246, compared with 1,480 in the spring of 1958. During the 23 years that entomologists at Tallulah, La. have maintained weevil survival records, the number per acre found this spring (3,026) has been exceeded only in 1956, when 3,654 live weevils per acre were found.

Five areas were surveyed in North Carolina, South Carolina and Virginia. Of these, the coastal plains of North and South Carolina had the highest average, 1,963 per acre compared to 403 in 1958. The 2,259 weevils per acre in Florence County, S.C., was the highest population found there since the spring of 1956.

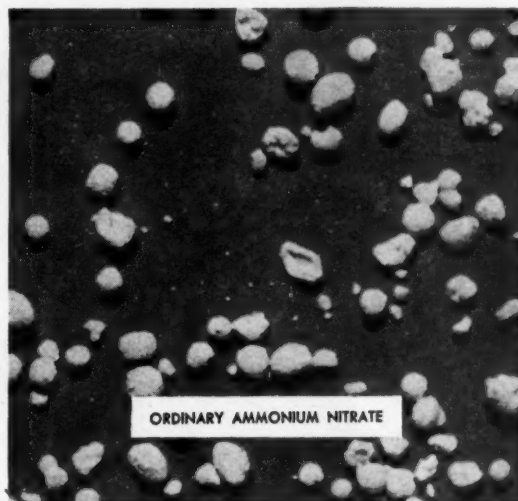
South-central South Carolina averaged 699 weevils per acre this year and north-central North Carolina, 81, both up slightly from last spring. Counts in the Carolina Piedmont were down to 242 per acre, from 296 a year earlier.

The 464-per-acre average count in Mississippi was slightly higher this year than in 1958, when the count was 392 per acre. Counts were higher than 1958 in the lower delta (781 this year) and the hill section (429), but were down in the central delta (364) and north delta (284).

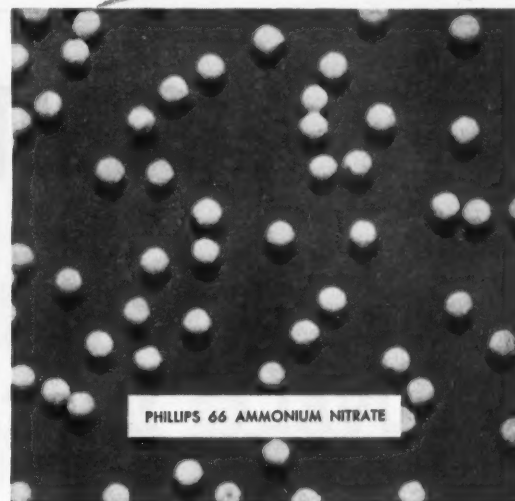
In Georgia, surviving boll weevil averages were less than half those of a year ago, 329, compared with 731. The highest average, 726, was in the state's north-central section. None survived in northwest Georgia.

Southeastern Virginia's boll weevils numbered only 27 per acre, just half the number found in 1958.

PHILLIPS 66 ads like this appear regularly in **CAPPER'S FARMER, PROGRESSIVE FARMER, FARM JOURNAL, FARMER-STOCKMAN** and **FARM and RANCH**... part of a continuing program to help dealers sell more mixed fertilizers and **PHILLIPS 66 AMMONIUM NITRATE**.



ORDINARY AMMONIUM NITRATE



PHILLIPS 66 AMMONIUM NITRATE

Unretouched photos showing both products 2½ times actual size.

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Farmers everywhere report that Phillips 66 guaranteed free flowing prills (made by an exclusive electronically controlled process) *do make a difference*... in easier application and more uniform crop response. And you get these extra profit-making benefits at *no extra cost!*

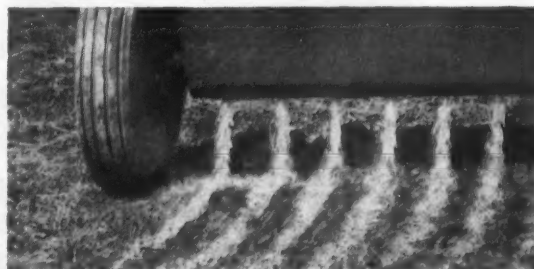
When you "talk fertilizer" with your dealer, ask him about Phillips 66 Ammonium Nitrate. He'll tell you about the local performance of this quality nitrogen fertilizer. Compare Phillips 66 with other brands... then you be the judge.

"A good name **Phillips 66** to grow by"

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Free flowing Phillips 66 Ammonium Nitrate also gives you a full 33.5% nitrogen—half is *fast-acting* nitrate nitrogen and half is *long-lasting* ammonia nitrogen. Pre-plant, side dress, top dress, or plow down—on cash crops or grassland—this quality fertilizer promotes vigorous growth... means more profitable farming.

* Phillips 66 Ammonium Nitrate is *guaranteed to flow freely* when stored and applied in a normal manner. If you are not satisfied that it lives up to this guarantee, your fertilizer dealer will replace it at no additional expense to you.



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Research in the News

Farmers today can produce four times as much corn for every hour of work as their grandfathers grew 50 years ago, reports R. A. Hinton, University of Illinois agricultural economist.

"Back in 1910, a central Illinois farmer on good soil averaged only 50 bushels of corn per acre, and it took him 18 man hours and 46 horse hours of work to get the job done," says Mr. Hinton, in a statement summarized here by the Midwest division of the National Plant Food Institute.

"Today in that area, a farmer can produce 75 bu. of corn per acre with six man hours and 5.4 tractor hours."

This uptrend in output per farm

worker is due to mechanization, increased crop yields and improved soil fertility, according to NPFI.

"Increased crop yields per acre have been helped by the use of commercial fertilizer," NPFI points out. "By using plant food farmers can get better returns from each acre, each hour of work and each dollar they put into crop production."

"And by farming each acre more efficiently to get high yields and low cost per unit of production, a farmer also gets soil conservation as a by-product. High production requires careful management of the soil to prevent its wastage. And thus soil conservation is a part of sound crop production."

"Minnesota soils specialists report that when continuous corn is heavily

fertilized, the high yields can produce enough stalks to supply the soil with about as much organic matter as legumes will provide. Organic matter helps build and maintain soil structure, improves drainage and helps cut down losses from erosion."

Minnesota's cropland is only getting a fifth as much lime as it needs, a University of Minnesota soils scientist said.

John Grava, supervisor of the university's soil testing laboratory, said lime is really the "foundation for a fertility program on acid soils."

He said soil test summaries show farmers should be using about 3.5 million tons of lime every year. Yet, they applied only 630,000 tons in 1957.

"If we consider all the advantages from proper liming," he stated, "the return for each dollar spent for lime would exceed the return per dollar

obtained from any other fertilizer practice."

Mr. Grava pointed out that Mower County tests a few years ago showed that liming increased corn yields by nearly 5 bu. an acre and oats by 3 bu.

He stated several benefits farmers get from liming.

"It furnishes calcium and magnesium for plant growth and makes phosphorus and nitrogen more available to growing plants," he said. "Liming acid soils promotes growth of favorable soil bacteria and prevents soil acids, aluminum, manganese and iron from becoming toxic to plants. It helps improve physical conditions of many soils—which helps cut down on soil and water loss—and lessens possibility of insect and disease damage by promoting vigorous plant growth."

Crop yields are 40% higher among midwestern farmers who have their soils tested and follow fertilizer recommendations of college agronomists, according to the National Plant Food Institute.

NPFI reports that nearly 1,200,000 soil test samples were processed through midwest state and county laboratories in 1957. It bases its statement on figures from state extension agronomists and soil specialists.

"While this represents an increase of several hundred thousand over the 1955 totals," says NPFI, "soil tests are needed on a large percentage of midwestern farms."

A recent survey by NPFI indicates that farmers rate soil testing as the most important external influence on their fertilization practices. Nearly half of those who failed to have their soil tested blamed their own negligence.

In the light of this favorable attitude by farmers, a vast expansion in soil testing would seem possible, provided enough additional effort is made to get farmers to take advantage of this valuable service, the Institute says.

Most farming communities in the Midwest would benefit substantially from an intensified soil fertility program, based on soil testing, the Institute points out.

Proper use of 2,4,5-T between now and next spring will control almost all kinds of brush at relatively low cost and without much of the back-breaking labor of hand cutting.

But it may take two or more applications to give 100% kill, warns R. L. Gantz, University of Illinois extension agronomist.

For winter use, Mr. Gantz recommends spraying or painting the lower part of the trunk with a mixture of 4 lb. of 2,4,5-T acid, the active ingredient in concentrates, in 25 gal. of kerosene, diesel oil or fuel oil. Apply the mixture all the way around the trunk from the ground up to a height of about 15 in. Use enough spray to make the fluid run down the bark onto the soil.

For trees larger than 8 in. in diameter or especially hard-to-kill varieties, Mr. Gantz recommends cutting through the bark in several places and applying the chemical to the cuts.

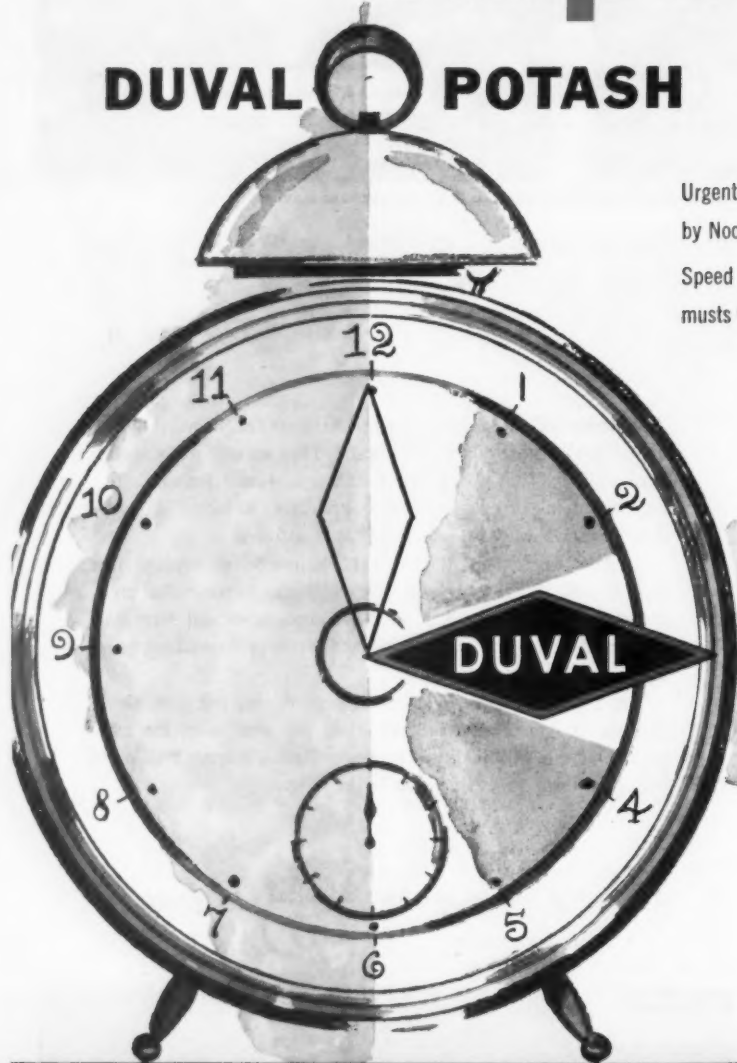
An ordinary 2 or 3-gal. knapsack sprayer is a good tool for brush spraying. For small jobs, 2,4,5-T can be painted on with a paint brush.

Treated brush is less likely to sprout again if it is left standing for at least a year after the chemical is applied. If freshly cut stumps have not previously been treated, spraying or painting the top and sides with the same mixture will prevent regrowth.

Mr. Gantz points out that 2,4,5-T tends to damage susceptible crops and orchards less during the dormant season than during the summer. Even so, avoid direct contact of useful plants with the spray.

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Slight Jump in Winter, Spring Fertilizer Use, Texas Dealers Report

LAMESA, TEXAS — Winter and spring fertilizer usage has increased slightly this year, according to a survey of several fertilizer dealers in the west Texas irrigated cotton country.

There are three reasons for this, most dealers say. Farmers are in better financial condition after a wet year in 1958. The shrinking cotton allotment has reduced acreage by 6 to 7%, which makes it imperative to raise more or fewer acres.

A third reason is that production costs are rising yearly. Five years ago farmers could produce a bale to the acre and come out with a profit. Now the minimum is more than this, and in some areas a grower must pick a bale and a half before he breaks even.

"We are on a rising spiral," said J. N. Vaughn, an irrigation pump dealer at Pecos. "Some farmers are now spending from \$30 to \$40 an acre for fertilizer, but it pays off. Yields have been above the three-bale-per-acre mark in many cases. The inefficient farmers are gradually being forced out of business."

Another trend has been toward water-soluble fertilizers which can be placed in irrigation water.

USDA Develops Cody, Aphid Resistant Alfalfa

WASHINGTON—Cody, a new alfalfa that resists spotted alfalfa aphids, has been developed and approved by the U.S. Department of Agriculture and the Kansas Agricultural Experiment Station, Manhattan. Cody is presently recommended in Kansas.

Seed of Cody is now being increased by the Kansas station at Manhattan, Hays and Tribune, and under supervision of state agronomists on a few Kansas farms. Considerable seed for certified seed production and possibly some for hay production may be available in 1960.

The new alfalfa has resistance of the antibiosis and tolerance types; that is, it fails to provide nourishment for aphids and tends to recover quickly from attempted aphid-feeding. It was developed by screening more than a quarter of a million plants of the variety Buffalo for resistance to the aphid and progeny testing the selected plants. The breeding stock for increasing the new variety consists of 22 plants.

The spotted alfalfa aphid resistance of the new variety has been studied in numerous greenhouse and field tests. Because of the urgent need for a variety resistant to the aphid in the Central Plains area, the release of Cody is being made following a shorter period of field testing than is normal for the release of a new variety.

Pea Growers Meet To Discuss Aphid Problem

LEWISTON, IDAHO — Pea growers of north central Idaho and southeastern Washington met to discuss the pea aphid which is of mounting concern in this area since it made serious inroads in the last two years in pea fields of the two states.

The Pea Aphid Control League was organized a year ago to devise methods of combating the pest through spraying programs.

Dr. William Cook, a U.S. Department of Agriculture research specialist at Walla Walla, Wash., told of aphid migration and multiplication; Roland Portman, University of Idaho extension service entomologist, and Harry Fenwick, extension service plant pathologist, both of Moscow, described the problem the insect poses in north central Idaho; Kenneth McIntosh, Lewiston, president of the control league, told of control measures that have been undertaken in the two states.

California Group Holds Joint Dinner Meeting

SAN MARINO, CAL.—The soil improvement committee of the California Fertilizer Assn. recently held a joint dinner meeting, with the newly established state college fertilizer committee as its guests. Held on the campus of California State Polytechnic College, San Luis Obispo, the menu featured prime ribs of beef which had been raised and fattened by students on the Cal-poly campus.

Represented on the college committee were the two campuses of California State Polytechnic College, at San Luis Obispo and Pomona; Fresno State College, and Chico State College. Millard E. McCollam, western manager, American Potash Institute, San Jose, and chairman of the association's soil improvement committee, presided.

It was pointed out by represen-

tatives of the college group that their institutions feature applied, or field research, in the form of demonstrations in which students take part. This does not impinge upon the basic research program which is the province of the University of California.

Reports were made concerning benefits resulting from range fertilization demonstrations, using increased pounds per acre of meat produced as the yardstick of achievement. Dr. Logan Carter, head of the soil science department of Cal-poly, San Luis Obispo, who was in charge of this project, reported that while it was demonstrated that fertilization increased materially the per-acre production of meat, the biggest benefit was that the student participation made them carry out their own portion of the project, which will insure a life-long impression concerning the value of farming on a scientific basis.

Fresno State College has been car-

rying a comprehensive student project involving culture of 200 acres of grapes. It plans a cotton fertilization program next year, on 55 acres of college farm land.

There was a universal agreement that the fertilizer group and all others interested in scientific agriculture as a major way of life should do everything possible to stimulate the interest of young people in agricultural education. Dean Vard Shepard of Cal-poly, San Luis Obispo, pointed out that about 400 students are graduating this year from all the colleges of agriculture in California. He said that if all these young people entered active farming as careers for four years, they would provide only 12% of the need for scientifically educated farm personnel. It was pointed out that student counsellors in our high schools should be prevailed upon to urge a larger number to seek higher agricultural education.



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Chase Bag Acquires California Company

NEW YORK—Chase Bag Co. announces the acquisition of Nafco Bags, Oakland, Cal., from National Automotive Fibres, Inc.

The present sales organization of Nafco Bags will continue as the Nafco Bags Sales Division of Chase Bag Co. under John W. Paulsen, former manager of Nafco. The headquarters of the Nafco Bags Sales Division will be 503 Market Street, San Francisco.

Superphosphate Output

WASHINGTON—U.S. January production of superphosphate and other phosphatic fertilizers amounted to 223,062 short tons (100% A.P.A.), compared with January, 1958 output of 222,379 short tons, reported the Bureau of the Census, U.S. Department of Commerce.

Shipments of superphosphate and other phosphatic fertilizers during January dropped 2% from last year.

SCREWORMS

(Continued from page 1)

ern states to make a survey for screwworms in northern Mexico and in Louisiana, Texas, New Mexico, Arizona and California. Purpose of the survey is to learn more about the habits of the screwworm fly there, and to determine if the new method of combating the screwworm, now being used in southeastern U.S., can be applied in Mexico and the Southwest.

The method involves use of radioactive cobalt to make laboratory-reared screwworm flies sterile. When sterile male flies are dispersed in large numbers over infested areas they mate with the native female flies and thereby prevent them from producing fertile eggs.

Screwworms survive the winter in Florida and in warm areas of the Southwest and Mexico. The surveys will serve to determine where

the screwworm overwinters in the Southwest and Mexico and how terrain and climate or other natural factors affect the habits of the fly there.

Other information to be obtained includes the number and kinds of animals attacked and the relative abundance of infestations during each season of the year. The information will be correlated with topography and climate to reveal any pattern of the fly's habits that will make it susceptible to the sterile fly method of combating the pest. Until such information is available, feasibility of using the method cannot be evaluated reliably, USDA says.

The fly lays its eggs on wounds of warm-blooded animals, including those resulting from dehorning, branding and similar livestock practices. The maggots that hatch from the eggs burrow in and feed on the living flesh, often killing the animal unless the infestation is treated.

The flies migrate northward, with the advance of warm weather each year, from southern U.S. sometimes as far as Virginia in the East and Nebraska in the West. Livestock shipped out of infested areas also spread the pest. Cold weather kills the northern infestations each winter.

A program to eradicate the screwworm, using the sterile fly method, has been under way in the southeastern states for about a year. During the 1958 season the release of sterile flies was instrumental in greatly reducing the number of screwworms in Florida. Elsewhere in the Southeast this program has resulted in fewer than 100 cases where normally thousands are reported each month in warm weather.

In the past, average annual losses in the southeastern states have been estimated at \$20 million, and losses in the Southwest may be greater.

SESAME

(Continued from page 1)

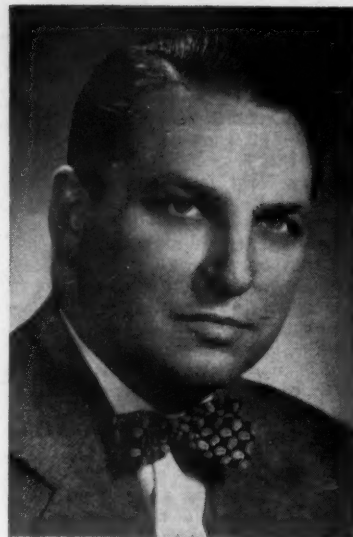
vide American farmers with a bigger share of this market, and could offer a profitable alternative crop to farmers operating under acreage restrictions on basic crops.

In greenhouse experiments with untreated sesame seed, growing in soils naturally infested with disease organisms, less than 1% of the seeds grew to a stand. Dr. Thomas recorded more than a 90-fold increase in stand from seeds treated with protective chemicals. Although results varied according to concentration of the chemicals, stands as high as 73% were noted from seed treated with captan, 63% with thiram and 52% with chloranil. Seed used in these comparative tests was more than 94% viable.

In field experiments with seed that was more than 96% viable, the same chemicals gave stands of 34, 49 and 32 respectively, compared with 5% with seed receiving no treatment.

Toxicity to the plants was not noted at the concentrations that resulted in large increases in stand.

Results showed seed treatments to be of considerable value for improving stands of sesame and controlling leaf spot diseases under conditions where the tests were made.



George W. Cosper

SOHIO APPOINTMENT—George W. Cosper has been appointed to the position of manager of agricultural sales for the Sohio Chemical Co. in Lima, Ohio, according to an announcement by Henry J. Coleman, sales manager for the company. Mr. Cosper, a graduate of the University of Michigan and a native of Detroit, has been assistant sales manager in agricultural sales for Sohio Chemical since joining the company in 1956. Mr. Coleman said that this appointment was in line with the company's program for expansion following the announcement of the start of construction of the Sohio acrylonitrile plant at Lima, where the company now produces ammonia, urea and nitric acid.

Potash, Phosphorus Status In Utah Soil Is Subject Of Agronomist's Search

LOGAN, UTAH—An inventory of the status of potash and phosphorus in principal irrigated soils of Utah will be completed this summer with the aid of a grant from the National Plant Food Institute to the Utah Agricultural Experiment Station here.

Rex F. Nielsen, assistant professor of agronomy at Utah State University, will direct the soil studies to be made in cooperation with the Soil Conservation Service to determine the phosphorus and potash content in major producing soils of the state.

Much of the desert type soil on cultivated areas of the state is better today than it was in its virgin state because of the use of irrigation water, addition of organic matter and application of fertilizers, Mr. Nielsen said.

The experiment station and NPFI and other agencies are interested in learning whether a potash or phosphorus deficiency might be threatened in five or 10 years, Mr. Nielsen added.

Witchweed Spread Incorrectly Reported

WASHINGTON—In a story about funds for witchweed control which appeared on page 1 of the April 6 issue of Croplife, it was incorrectly reported that Dr. M. R. Clarkson, head of the regulatory programs, Agricultural Research Service, U.S. Department of Agriculture, had said that the witchweed threatened to expand into the commercial Corn Belt.

The witchweed has been largely confined to North and South Carolina, and Dr. Clarkson commented that the pest threatened to invade the commercial corn counties in those states.

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"WHEY IN THE HAY"

MADISON, WIS.—Whey, a by-product of the cheese industry, has some potential as a source of fertilizer on some Wisconsin field crops, report agricultural researchers at the University of Wisconsin.

A ton of whey contains about 8 lb. of nitrogen, $\frac{1}{4}$ lb. of phosphorus and $3\frac{1}{2}$ lb. of potassium plus small quantities of sodium, calcium, magnesium and chlorine, the researchers say. It would cost about one dollar to purchase these nutrients as commercial fertilizer. Three tons of whey contain about as much plant food as one ton of manure, they maintain.

A. E. Peterson, H. E. Calbert, and W. J. Sharratt, researchers, point out that some 5 billion lb. of whey are produced in Wisconsin each year. Less than half of this is processed into feed products, and the rest causes a disposal problem. If it could be used as fertilizer the disposal problem might be solved and farmers would have an additional source of plant food, the researchers say.

They add that results of a four year study indicate grasses, either hay or pasture, will benefit from a total whey application of 20 to 50 tons an acre; but as high as 200 tons an acre can be applied without injury if the disposal area is limited. Corn will benefit from similar whey applications made at least two weeks prior to planting.

Alfalfa will tolerate a total whey application of 100 tons an acre. However, maximum benefits from whey result when it is applied on a non-legume crop such as grass or corn that makes efficient use of applied nitrogen.

There is a slight possibility that some diseases could be spread if the whey had not been heated or pasteurized during the cheese process, it was noted. However, this would happen only if the whey were put on in such a quantity to cause standing puddles of whey in the field.

Desirable benefits from the whey, both from the soil fertility and soil structure viewpoint, will also be found for several years following application. If a farmer has or can obtain equipment to haul and spread whey and if he has a good source, whey can be put to good use on Wisconsin fields, the researchers said.

Results of 18 Idaho Tests Show Moisture As Limiting Factor

IDAHO FALLS, IDAHO—Results obtained by the University of Idaho, which has been studying the use of nitrogen fertilizer on dry-land wheat in southeastern Idaho, indicate that the major limiting factor in wheat yields has been moisture.

G. Orien Baker of the University's agronomy department, said 18 different experiments have been conducted by personnel of the Teton and Aberdeen branch experiment stations.

The factors investigated include rate of application, time of application, comparison of different nitrogen fertilizers and application to winter and spring wheat.

Tabulated results show no difference in the different kinds of nitrogen fertilizers wherein equal rates of nitrogen have been used according to the recommendation for the use of each fertilizer. The general response has been better, Mr. Baker said, on winter than spring wheat.

A number of factors influence the results obtained from this kind of fertilizer. These include moisture, fertility levels, previous cropping practices, crop residue utilized, kind of soil, erosion losses, time of application of fertilizer, weeds and many others. Recommendations made are for average conditions in southern Idaho. It is believed that once the farmer is familiar with the nitrogen fertilizer, he will be able to modify the general fertilizer recommendations to fit his specific conditions. Application is advised during the summer months.

General results for winter wheat

GYPSY MOTH

(Continued from page 1)

New York, Pennsylvania and New Jersey, have been treated during the past three years. The pest is now in a position where it might be pushed out of the area entirely.

It had long been believed that the mountains in the Northeast provided a natural barrier against the spread of the gypsy moth but the pest jumped the hills and threatened to spread toward the hardwood areas of the Midwest and South. It has been said that the Midwestern and Southern areas' hardwoods might prove more susceptible to the gypsy moth than trees in the Northeastern area.

Some 18,800 acres required spraying in Michigan in 1957, but last year gypsy moths were found outside this area.

show that the most satisfactory rate to use is between 20 and 40 lb. nitrogen an acre. The yields from 60 lb. nitrogen an acre are about the same as for 40 lb. There was no response from the use of nitrogen at Teton, but favorable responses were obtained at Aberdeen, Mr. Baker stated.

A general fertilizer recommendation for the dryland wheat areas of southeastern Idaho is 20 to 40 lb. of nitrogen an acre on winter wheat. The lower rate will apply principally to the lower rainfall areas and the higher rate for the areas receiving higher rainfall, Mr. Baker concluded.

Ohio Experimenters To Study Worth Of Demonstration Plots

COLUMBUS, OHIO—Research workers at the Ohio Agricultural Experiment Station are beginning a study of the impact of demonstration plots upon farmers' attitudes toward fertilizer.

While the demonstration method has been widely used by extension workers, teachers and others for many years, little is actually known about the effectiveness of these demonstrations in convincing people to use new ideas. The National Plant Food Institute has sponsored this study by a grant of \$10,890 to the departments of agronomy and agricultural economics and rural sociology.

Dr. Everett M. Rogers, assistant professor of rural sociology, is project leader of the research study. In cooperation with the department of agronomy, a program of fertilizer demonstrations is being established in Miami County. Approximately 70 demonstration plots will be located on farms throughout the county this year. Interviews will be conducted with a sample of farmers before and after the demonstrations to determine their effect on farmers' attitudes toward the use of fertilizer.

Quarterly Earnings Report

NEW YORK—Stockholders of St. Regis Paper Co., at the annual meeting here, were told that figures for the first three months of 1959 showed net sales at \$95,355,933 and net income at \$5,518,904, equal to 64¢ a share on 8,489,488 shares of common stock outstanding at the end of the quarter. This compared with net sales of \$84,964,059 and net income of \$3,663,121, equal to 42¢ a share on 8,446,435 shares of common stock in the corresponding quarter of last year.

Arkansas Plant Board Sets Public Hearing On Ratios, Grades

LITTLE ROCK, ARK.—A public hearing to establish ratios and minimum grades of mixed commercial fertilizers which may be sold in Arkansas for the period July 1, 1959 through June 30, 1960, has been set for the Albert Pike Hotel here, May 28.

Henry DeSalvo, head of the feed, fertilizer and pesticide division of the State Plant Board, who made the announcement, said after a list of ratios and minimum grades is promulgated by the Plant Board, no other grades of mixed fertilizers may be registered or sold in the state.

The proposed list differs from this year's in that the 0-2-1 ratio has been deleted, the ratios 1-2-0 and 2-1-2 have been added and the minimum grade for the 1-2-1 ratio is increased to 6-12-6.

Agricultural Chemicals Help Increase Cut Flower Yield

SAN FRANCISCO—New or improved fertilizers, insecticides and fungicides have enabled commercial growers of cut flowers to increase yields and improve quality, according to Dr. D. B. DeLoach, professor of agricultural economics, University of California, Los Angeles.

In addition, better handling techniques, moisture and temperature controls and the speed and flexibility of transportation have done much to maintain product quality between shipping points and distant markets, he said. The expanding output of carnations, chrysanthemums, gladioluses and roses in California, Colorado, Florida, Illinois and Iowa for out-of-state consumers has been feasible because of improvements in transportation facilities and handling methods.

No reliable statistics are available on how much recent technological improvements have affected yields per acre or per unit of greenhouse area, but some light may be thrown on the effects by a comparison of the changes in production under glass, open-field acreage, and number of growers with the changes in total sales value of the products, said Dr. DeLoach.

According to the latest Census of Agriculture (1954), an estimated 42,085 open-field acres and 3,875 acres of greenhouse space were used for commercial flower production. The space used to produce cut flowers, potted plants, florist greens and bedding plants under glass increased about 96 acres, between 1949 and 1954, while open-field acreage of the same products decreased 9,142 acres, the professor revealed.



C. F. (Stan) Stanton

APPOINTMENT—C. F. (Stan) Stanton has been appointed district representative for Highway Equipment Co., Cedar Rapids, Iowa, announced Gale E. Allen, general sales manager. Mr. Stanton will cover Colorado, Kansas, western Missouri, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming. Prior to joining Highway Equipment, Mr. Stanton was a district representative for Tarrant Manufacturing Co.

Washington Fertilizer Sales Increase in 1958

PULLMAN, WASH.—The total of all fertilizer materials sold in Washington during 1958 amounted to 248,981 tons, compared with 213,743 tons for 1957, reported Allen Baker, grain and chemical division supervisor, Washington State Department of Agriculture.

This broke down into 201,724 tons for materials, 31,912 tons for mixed grades, 10,058 tons for agricultural minerals and 5,287 tons for lime.

NEW AGENCY

AMBLER, PA.—Amchem Products, Inc., Ambler, announced the appointment of the agency of Margaret Herbst, 101 Park Avenue, New York City, to handle public relations on corporate as well as product levels.

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Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

FIGURES REVEALED . . .

Canadian Pesticide Makers Report 3% Net On Gross Sales; Cost of Operations 94%

A REPORT on gross sales, percentage of profit and other statistics from Canadian pesticide producers is of unusual interest to their contemporaries in the U.S. for at least two reasons. The first is to ascertain information on volume and net profits and thus to compare (or contrast) with similar operations in the states; and second, it stands as a commendable feat that such figures should be made available at all!

The Canadian report says that pesticide firms in that country realized an overall net profit of 3.3% per sales dollar on their operations for 1958. This figure was derived from a reported total net income of \$411,900 out of gross sales of \$12,159,725 last year.

These statistics were gathered by the Canadian Agricultural Chemicals Assn. About one-quarter of the firms engaged in pesticide manufacturing participated in the audited survey. The gross sale figure, however, represents just over half the total dollar sales volume for agricultural dusts and sprays, livestock treatments, herbicides, household and industrial insecticides, rodenticides and sundry chemicals reported for the 12 month period by the Dominion bureau of statistics.

Other business information garnered from the survey included these facts:

Approximately 3¢ of every sales dollar was paid in federal and provincial taxes on income. The largest portion, 94% of the sales dollar, went for the operating costs of business, including wages, salaries and various benefits to employees, and purchases of raw materials.

Some other interesting sidelights, apart from the corporate statistics concerning operations in 1958, are figures concerning the overall rise in pesticide use in the country. In 1947, the report states, annual sales of pest control products in Canada amounted to some \$7 million. Since then, sales volume has tripled, indicating the tremendous expansion in use of these toxicants in controlling weeds, insects and rodents.

Twenty years ago, insects destroyed about 25% of all the crops raised by farmers. But the progressive use of control materials reflects the fact that the estimate is something like only 12% today, despite the greatly increased agricultural output.

★ ★ ★

WHILE CANADIAN use of pesticides has moved continually upwards, consumption of chemical products on the farms of the United Kingdom have likewise seen a significant upturn. Fertilizer usage in the U.K. has tripled since just before the war and, according to S. A. Bradburn, agricultural marketing manager of Fisons, Ltd., "possibilities for a continued growth in consumption remain considerable."

Mr. Bradburn's observation seems well-founded, for as is true in the U.S., much of England's farm acreage still receives either no additional plant food, or in such skimpy amounts as to be negligible.

In a recent report in the London "Times", Mr. Bradburn said, "Investigations show that about 30% of the cereal acreage still receives no complete fertilizer at all, but the proportion which has been receiving one nutrient has advanced from 66% four years ago to 72% in 1958. The acreage of potatoes has been falling since prewar but is now resuming its prewar level. The potato crop is generally regarded as a well-fertilized crop, 95% of the acreage receiving some compound fertilizer.

The proportion has risen from 92% in 1955 to 95% in 1958.

"The acreage for sugar beet is fixed, and like potatoes, 95% of the crop is today receiving a compound fertilizer, the proportion having risen from 88% in 1955. The brassica crop is largely kale and with increasing significance the acreage has increased and the proportion receiving a compound fertilizer is today just over 70%.

"Progress is being made with grass land, but there is a long way to go. Of the 6 million acres of temporary grass only a third is receiving any compound fertilizer, but the proportion has risen recently from 27% to 33%. Of the permanent grass only 14% received any compound fertilizer last year.

"These figures are an indication of the extent of the educational effort required if fuller use of grass lands is to be made. They also indicate the scope for growth generally. If fertilizers were applied in the quantities considered necessary by the scientists the potential market would be so huge that there is little point in quantifying it."

The above quotation from Mr. Bradburn sounds familiar to the ears of fertilizer men in the U.S. How many times have we heard it said that if farmers here were to use fertilizer to the fullest extent of its economic value, the industry would be scarcely able to meet the demand?

Gypsy Moth Program to Continue in 1959 Season

DESPITE protests of numerous citizens against the program last year, the gypsy moth control program will be continued in New York state this year. Officials of the Empire State and the U.S. Department of Agriculture plan a new program, smaller than the large-scale effort of 1958, but still quite extensive.

The program this year will be confined to the western periphery of the infested zone in New York. This will constitute part of the effort to push the gypsy moth back across the Catskill mountains and eliminate it from the northeastern states where it has done great damage to forests.

Federal funds available for further gypsy moth control total \$2,800,000 and this same amount is provided in the USDA budget for the fiscal year beginning July 1.

That a renewed effort will be made in this direction during 1959 is a heartening piece of information. Citizens of the area who are able to see clearly through the panicky reaction of some residents of the affected area, understand the importance of doing this job completely while there is a good chance of winning the battle.

The fourteen residents of Suffolk and Nassau counties of Long Island who brought suit to stop the action last year have appealed to the Circuit Court of Appeals in a continued effort to reverse the opinion of Judge Walter Bruchhausen of U.S. Federal Court in Brooklyn. After hearing the complaints of the citizens last year, he held that the federal and state governments have a legal right to fight the destructive pest by aerial spraying.

Every effort will be made to protect lives and property in the 1959 program, as was done in previous projects. DDT will be used in uninhabited and wild areas, while other toxicants will be employed in valleys and other places where dairying is the chief farm activity.



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

June 9-11—Pilot plant demonstration on recent developments in fertilizer production technology. Muscle Shoals laboratories, Sheffield, Ala.

June 15-18—Western Society of Soil Science, University of California, Davis, Cal.

June 27—Del-Mar-Va Peninsula Fertilizer Assn., Ocean City, Md.

June 29-30 Fertilizer Industry Conference, University of Illinois, Urbana, Ill.

July 31—Agronomy Field Day, University of California, Davis, Cal.

Aug. 18-22—Annual Convention of the Canadian Fertilizer Assn., Bigwin Inn, Lake of Bays, Ontario.

Aug. 26-28—Soil Conservation Society of America, 14th Annual Meeting, Rapid City, S.D.

Oct. 13-14—Western Agricultural Chemicals Assn., fall meeting, Villa Motel, San Mateo, Cal., C. O. Barnard, executive secretary.

Meeting Memos listed above are being listed in this department this week for the first time.

April 29-30—Symposium on transportation, regulation and packaging of chemical products, sponsored by the Manufacturing Chemists' Assn., Engineering and Scientific Center, Cleveland, Ohio.

May 21—Chemical safety workshop sponsored by the Manufacturing Chemists' Assn., Palmer House, Chicago.

June 4—Executive committee meeting, fertilizer section, National Safety Council, Hotel Roanoke, Roanoke, Va.

June 9-10—Seventeenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Velda Rose Motel, Hot Springs, Ark.; Maurice Rowe, Virginia Department of Agriculture, 1122 State Office Bldg., Richmond 19, Va.

June 11-13—87th annual meeting, Manufacturing Chemists' Assn., The Greenbrier, White Sulphur Springs, W.Va., John L. Gillis, vice president of Monsanto Chemical Co., program chairman.

June 14-17—National Plant Food Institute, Annual Convention, the Greenbrier, White Sulphur Springs, W. Va.

June 23-25—Pacific Branch, Entomological Society of America, 43rd annual meeting, El Dorado Hotel, Sacramento, Cal. Dr. Leslie M. Smith, University of California, Davis, branch chairman.

June 29-30—Seventh Annual Califor-

nia Fertilizer Conference, University of California campus, Davis, Cal. J. H. Nelson and Earl R. Mog, co-chairmen.

July 7-9—Regional Fertilizer Conference, co-sponsored by the Pacific Northwest Plant Food Assn. and state colleges and universities in the area, Winthrop Hotel, Tacoma, Wash.

July 29—Annual Kentucky Fertilizer Conference, Guignol Theater, University of Kentucky campus, Lexington, Ky.

Aug. 3-7—Gordon Research Conference on biochemistry in agriculture, Kimball Union Academy, Meriden, N.H.

Oct. 14-16—Pacific Northwest Plant Food Assn. Annual Convention, Chinook Hotel, Yakima, Wash.

Oct. 21-23—National Agricultural Chemicals Assn., 26th annual meeting, French Lick-Sheraton Hotel, French Lick, Ind., Lea S. Hitchner, executive secretary.

Nov. 4-6—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C. Dr. Vincent Sauchelli, National Plant Food Institute, chairman.

Nov. 9-11—California Fertilizer Assn., 36th annual convention, Fairmont Hotel, San Francisco.

Nov. 16-20—National Aviation Trades Assn., 20th annual convention, New Orleans, La.

Dec. 9-11—International Crop Protection and Pest Control Exhibition, Seymour Hall, St. Marylebone, London, England.

Monsanto Announces

Two Staff Appointments

ST. LOUIS—Dr. Joseph D. Campbell, Jr., has joined the development department of the Monsanto Chemical Co. organic chemicals division, and Lester E. Goodheart has joined the agricultural sales department of the same division.

Dr. Campbell, who received his Ph.D. from Michigan State University, will be a project manager in the agricultural chemicals section. He was formerly with Olin Mathieson Chemical Corp.

Mr. Goodheart, a University of Illinois graduate, will serve the Champaign, Ill., area. He was formerly with Chance Vought Aircraft Co.

PLANT NEMATODES BOOK

GAINESVILLE, FLA.—The University of Florida Agricultural Experiment Station has published a book on plant nematodes, assembling information pertaining to control of plant diseases caused by the pests. The 250-page treatise was written by Dr. J. R. Christie, now on the station staff.



R. Paul Jolley

JOINS CSC—R. Paul Jolley has joined the agricultural chemicals department of Commercial Solvents Corp. as a sales representative, it was announced by Clyde T. Marshall, department manager. He will make his headquarters at CSC's district office, 550 Glenn St., S.W., Atlanta. For the past four years Mr. Jolley served as chief fertilizer control official for the Georgia Department of Agriculture with the additional responsibility of director of personnel for this department. Prior to this, he was a sales representative for the Virginia-Carolina Chemical Corp. from 1947-1955.

JOINS MICHIGAN CHEMICAL

SAINT LOUIS, MICH.—George C. Stradley has joined Michigan Chemical Corp. as group leader in charge of chemical engineering research. Announcement of his appointment was made by Dr. Dwight Williams, director of research.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of \$11 per column inch.

All Want Ads cash with order.

BUSINESS OPPORTUNITIES

FOR SALE—FERTILIZER PLANT, GOOD Iowa location. Granulation equipment. Sell on contract. Write P.O. Box 662, Sioux City, Iowa.

MISCELLANEOUS

LIQUID FERTILIZER CORN PLANTER attachment—Simple low cost, easy to install, puts fertilizer and Aldrin 2½ inches below the seed or corn. Address Ad No. 4737, Croplife, Minneapolis 49, Minn.

BRUSH AND WEED KILLER

KILL SUBMERSED water weeds which foul up motor propellers, tangle fishing gear and choke irrigation ditches with R-H Granular Weed Rhap. Inexpensive, easy to use, sure results. For details write Reesor-Hill Corporation, Box 36CL, Jacksonville, Ark.

KILL BRUSH at low cost with amazing R-H Brush Rhap. Will not injure grasses, grains, cattle, or other animals. See your dealer, or write Reesor-Hill Corporation, Box 36CL, Jacksonville, Ark.

SALES REPRESENTATIVE

WATERTOWN, MASS.—J. Platt Hamerslag, Jr., has been appointed sales and service representative in the San Francisco area for Lewis-Shepard Products, Inc., Watertown, it was announced. Mr. Hamerslag is president of the Hamerslag Equipment Co. in San Francisco and will maintain complete sales and service facilities there for Lewis-Shepard, the company said.

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American Potash Institute	Meredith Publishing Co.
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APRIL	MAY	JUNE	JULY
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4	1 2	1 2 3 4 5 6	1 2 3 4
5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13	5 6 7 8 9 10 11
12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20	12 13 14 15 16 17 18
19 20 21 22 23 24 25	17 18 19 20 21 22 23	21 22 23 24 25 26 27	19 20 21 22 23 24 25
26 27 28 29 30	24 25 26 27 28 29 30	28 29 30	26 27 28 29 30 31
	31		
AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7 8	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7
9 10 11 12 13 14 15	6 7 8 9 10 11 12	4 5 6 7 8 9 10	8 9 10 11 12 13 14
16 17 18 19 20 21 22	13 14 15 16 17 18 19	11 12 13 14 15 16 17	15 16 17 18 19 20 21
23 24 25 26 27 28 29	20 21 22 23 24 25 26	18 19 20 21 22 23 24	22 23 24 25 26 27 28
30 31	27 28 29 30	25 26 27 28 29 30 31	29 30
DECEMBER	JANUARY	FEBRUARY	MARCH
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5	1 2	1 2 3 4 5 6	1 2 3 4 5
6 7 8 9 10 11 12	3 4 5 6 7 8 9	7 8 9 10 11 12 13	6 7 8 9 10 11 12
13 14 15 16 17 18 19	10 11 12 13 14 15 16	14 15 16 17 18 19 20	13 14 15 16 17 18 19
20 21 22 23 24 25 26	17 18 19 20 21 22 23	21 22 23 24 25 26 27	20 21 22 23 24 25 26
27 28 29 30 31	24 25 26 27 28 29 30	28 29	27 28 29 30 31
	31		



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insecticide dollar, increases confidence in insecticides and results in improved sales for dealers. These charts and other materials outlining the program are available for major cotton producing areas directly from Hercules.



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